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ABSTRACT

This analysis synthesizes recent reports concerning future research on adolescent health and development; identifies broad-based trends in research priorities; describes gaps in the existing knowledge base; and suggests approaches for developing and implementing a national adolescent health research agenda. Priorities for research in four major content areas are examined: adolescent physical, psychological, and social development; social and environmental contexts; health enhancing and health-risk behaviors; and physical and mental disorders. Recommendations cover essential resource needs as well as conceptual, methodological, and sampling approaches for addressing these research questions. The report is organized into three sections. Part 1 reviews and summarizes the recommendations that identify the most important research questions in adolescent health. Part 2 describes recommended approaches for addressing these research questions and the diverse set of tools, skills, and resources necessary to conduct recommended research. Part 3 provides a summary of cross-cutting themes that emerged from the analysis and offers options for moving towards a national research agenda for adolescent health. Each chapter begins with an introduction concerning the content area covered and concludes with a commentary that synthesizes the material. Appendixes include a list of the reviewed documents and a summary of research recommendations. (Contains 61 references.) (JDM)

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RESEARCH PRIORITIES IN ADOLESCENT HEALTH:

An Analysis and Synthesis of Research Recommendations

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National Adolescent Health Information Center

The National Adolescent Health Information Center of the University of California, San Francisco was established in October, 1993. The Center is based within the Division of Adolescent Medicine, Department of Pediatrics and the Institute for Health Policy Studies. The Center's goal is to improve the health of adolescents by serving as a national resource for adolescent health information and research to assure the integration, synthesis, coordination and dissemination of adolescent health-related information.

Major activities include: 1) promoting collaborative relationships with the Maternal and Child Health Bureau (MCHB), other federal and state agencies, professional and research organizations, private foundations and advocacy groups; 2) collecting, analyzing and disseminating information through short-term and long-term analyses of new policies affecting the adolescent population; and 3) providing technical assistance, consultation and continuing education to states, communities and providers in content areas that emphasize the needs of adolescents. Throughout its activities, NAHIC emphasizes the needs of special populations who are more adversely affected by the current changes in the social environment for youth and their families.

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FOREWORD

Moving from Infancy to Adolescence: Developing Adolescent Health Research

Anne C. Petersen, PhD
W K Kellogg Foundation

This is a remarkable report synthesizing and analyzing research recommendations from reports on adolescent health published over the past decade. Those who are familiar with the reports reviewed will find the juxtaposition of data sources and recommendations useful. Those who have not seen all the reports will find the synthesis invaluable for consensus on the status of the field as well as future directions. The conceptual framework for reviewing reports is useful and the strategic approach to future needs is extremely important.

While research on adolescent health has developed tremendously over the past decade, it is still at an early stage and is not yet cumulative. You might say that the field moved quickly out of its infancy and is now in adolescence. Although it is an asset that researchers of adolescent health come from diverse disciplines, this diversity also involves the risk that the entire body of work is not known to everyone working in the field. Those in adolescent medicine are less likely to read health-oriented articles in sociology, and public health researchers might not read the adolescent psychology journals. By synthesizing extant reports and their recommendations, this report makes a large body of work accessible to all in the field. For science in this area to be healthy and become fully developed, it is essential that all researchers be knowledgeable about what is and is not yet known.

Not too long ago, I gave a talk titled "Adolescent Mental Health" and was told that that phrase represented an oxymoron! This report documents how far we've come. The emphasis on positive development and health in reports over the past decade represents a distinct shift in the field. Because of the evidence that adolescents look to the broader society for who and what they are expected to become, this shift in perspective might also have some positive consequences for young people. Media portrayals of adolescents are still more likely to be negative than positive, but perhaps we will soon see that ratio flip.

The analysis in this report provides interesting insight into the frequently implicit assumptions about explanatory models for adolescent health. For example, psychosocial consequences of both mental and medical disorders were of interest, but attention to psychosocial precursors or risk factors focused on mental disorders. In contrast, biological vulnerabilities were presumed to be involved with both medical and mental disorders. As this example suggests, one result of this report might be that more of us call into question our assumptions and think more broadly about alternative hypotheses.

Especially notable and important are the many research priorities of an explanatory nature. Research on adolescent health has been primarily descriptive, as often happens with newer fields. More research hypothesizing causal processes not only will yield increased scientific understanding but will also be more useful for both practice and policy.

The call for stronger links between research, policy and practice is also welcome. Researchers need these links to insure that their work is relevant and effectively communicated; conversely, policy analysts, policy makers and service providers will benefit from knowing about

research advances related to adolescent health. Because so many reports have made these recommendations previously, however, effective implementation will require high motivation and innovative approaches. Social marketing is one tool to consider for this challenge.

Many people are concerned about adolescents and recognize the importance of their health and positive development; therefore, research on adolescent health has generally enjoyed a receptive audience. On the other hand, we researchers have frequently neglected our responsibility to communicate important results to the broader public. Especially when our research is publicly funded, we are obligated to consider whether our results should be disseminated in the general media. There are now ways to accomplish this dissemination without each researcher spending valuable time on talk shows or with reporters. For example, the ease of posting papers on the World Wide Web, with links to other appropriate sites, permits rapid communication of results to other scientists and to the broader public. All of us must take more seriously the obligation to inform the public about important findings in adolescent health, using language that is accessible to a broad audience that includes parents, providers and teens themselves.

This report also highlights the importance of involving adolescents in designing policies and programs to serve them. While I previously would assent to such recommendations, until recently I didn't really appreciate the power of involving adolescents. Evidence regarding the impact of youth involvement with boards or other voluntary activity suggests that this involvement may represent not only a contribution to various activities that benefit society but also one of the most potent interventions for youth development. In addition, adults develop new appreciation of adolescents through this process, thus addressing another serious problem affecting adolescents.

The field of adolescent health research has made tremendous strides in recent decades. As this report documents, there is much yet to be accomplished. But the evidence points toward increasingly sophisticated science yielding greater benefit for adolescents and society in general.

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EXECUTIVE SUMMARY

Over the past few decades, the amount of research on adolescent health has grown considerably. Many reports have reviewed the lessons of these research efforts and have developed recommendations for future research on adolescent health and development. This analysis synthesizes the more recent of these reports, identifies broad-based trends in research priorities, describes gaps in the existing knowledge base, and suggests approaches for developing and implementing a national adolescent health research agenda.

Priorities for research in four major content areas are examined: adolescent physical, psychological and social development; social and environmental contexts; health enhancing and health-risk behaviors; and physical and mental disorders. In addition to identifying high priority research needs within each of these content areas, recommendations cover essential resource needs, as well as conceptual, methodological, and sampling approaches for addressing these research questions.

Across content areas, cross-cutting themes serve to identify critical directions for future research. These themes highlight the importance of:

- Applying a developmental perspective to adolescent health research.
- Emphasizing "health" in adolescent health research.
- Using multiple influence models for understanding and improving adolescent health and development.
- Recognizing the diversity of the adolescent population.

In considering the next steps for implementing a national research agenda for adolescent health, the results of our analysis suggest a number of areas worthy of further development. These include:

- Articulation of the content of an analysis research agenda for adolescent health, with consideration of both short-term and longer-term research goals.
- Strategic thinking and planning in relation to human resource issues and training needs for adolescent health research.
- Identification of high priority funding needs and opportunities for adolescent health research.

Concerns about the health status and future of young people in today's society have fueled an explosion of scholarly work on adolescents. The time is now opportune for building on this knowledge base and using it to improve the health and well-being of young people today and in the future.

1 INTRODUCTION AND BACKGROUND

Over the past few decades, the volume of research on adolescent health has grown considerably. A number of national reports have been issued that summarize research findings and make recommendations regarding directions for future research. The current project synthesizes the recommendations in these reports to provide a collective assessment of the state-of-the-science in adolescent health research. By synthesizing broad-based trends in research priorities for adolescent health, this report identifies gaps in the existing knowledge base, understudied populations, underutilized research approaches, and essential resource needs. Findings from this analysis can help to inform future science policy by providing options for an adolescent health research agenda, as well as a benchmark for assessing current science policy and funding priorities.

Study Methodology

Staff of the National Adolescent Health Information Center (NAHIC) began the research by developing a set of criteria for determining the kinds of documents that would be reviewed. These criteria included the following:

- Document was national in scope.
- Document was published between 1986-1997[1].
- Document focused on adolescents or youth.
- Document provided clear research recommendations concerning adolescent health and/or health-related areas.
- Recommendations reflected a collective perspective, rather than the views of the document's author or authors.

Using these criteria, staff identified 53 key documents for review. The documents, which are identified in Appendix A, include reports issued by government agencies, private foundations, professional organizations, and a variety of task forces and commissions. Utilizing the criteria described above meant that some important documents containing research recommendations for adolescent health were not included in the analysis. For example, a report by the Institute of Medicine on Understanding and Preventing Violence (1993) was not included because it was not focused on adolescents. Edited volumes and published reviews, which typically reflect the views of a small number of authors, were not included either, despite the fact that some of these documents contain important recommendations for adolescent health research. Readers should also note that a different set of criteria for document inclusion might have generated a different set of research recommendations.

To ensure the comprehensive inclusion and coverage of relevant documents, NAHIC staff contacted government agencies, private foundations and professional organizations involved in youth-related service and/or research. Through telephone calls and two rounds of letters, NAHIC staff requested documents that met the selection criteria listed above. In addition, a supplemental search for government program announcements was conducted using the online NIH Guide to Grants and the Worldwide Web sites of multiple government agencies. The NIH Guide to Grants was searched using the terms "adolescence," "adolescents," "youth," "adolescent," "teen," and "minority adolescent"; the full index of program announcements was reviewed to identify any title that might relate to youth, adolescents, or families. After careful review and discussion, only documents that met the above criteria were included.

[1] Exceptions were made for Program Announcements from federal agencies, which were reviewed if published between 1991 and 1996. Program Announcements that did not focus on adolescents but which included specific recommendations for research on adolescents were also included.

Research recommendations were then extracted from a sample of the documents. Each identified recommendation was either: a) explicitly defined as a recommendation by the report; b) presented as a research question that needed to be studied; or c) introduced as a clear statement about a gap in research that should be addressed. Where there were repetitive recommendations from the same document, the most specific recommendation was selected for inclusion. Some recommendations were edited for clarity; for example, words were added to make the context of the recommendation explicit or extraneous words deleted to make the recommendation more comprehensible. No substantive changes in the content or meaning of the recommendations were made. Staff developed a classification scheme for organizing and describing the recommendations, and inter-rater reliability was assessed on a sub-sample of recommendations. All of the remaining documents were then reviewed and the recommendations classified. The entire set of research recommendations, sorted by source document, is provided in Appendix B.

Organization of the Report

The report is organized into three sections. Part I reviews and summarizes the recommendations that identify the most important research questions in adolescent health. Part II describes recommended approaches for addressing these research questions as well as a diverse set of tools, skills and resources that were identified as necessary adjuncts to conduct the recommended research. Part III provides a summary of the cross-cutting themes that emerged from the analysis and offers options for moving toward a national research agenda for adolescent health.

The reader will notice that the chapters in Part I vary in length and scope. This variation reflects differences in the recommendations themselves. For example, Chapter 3 (The Social and Environmental Context of Adolescents' Lives) summarizes a large number of recommendations. In order to adequately convey to the reader the breadth and depth of these recommendations, it was necessary to break them into five subsections. In contrast, recommendations in Chapter 1 (The Developing Adolescent) were less numerous, and therefore no subsections are used.

Each chapter begins with a brief introduction concerning the general content area covered in that chapter. Where recommendations in a given chapter fall into conceptually meaningful subsections, they are presented as such; as noted above, this occurred most often when the number of recommendations in a chapter was large. Chapter subsections begin by identifying the research priority areas that emerged from the reviewed documents. Priority areas are described with a level of specificity designed to give the reader a sense of the breadth and depth of the relevant recommendations. Examples of representative recommendations—ranging from 2 to 4 for each Priority Area—are also presented for illustrative purposes with the abbreviation for their source documents in parentheses. Chapter subsections are followed by section commentaries. Here, the reader will find discussion regarding the quality and specificity of the recommendations reviewed, mention of additional recommendations that were too infrequent to warrant consideration as a priority area but which had conceptual importance, and identification of unexpected gaps in the recommendations—that is, areas in which one might have expected a larger number of recommendations. We also use the section commentary to point the reader to places in the document that include discussion of related topics. Each chapter concludes with a chapter commentary. These commentaries synthesize the content area covered in the chapter, addressing the strengths and limitations reflected by the recommendations, as well as cross-cutting themes that emerged across subsections.

2 THE DEVELOPING ADOLESCENT

Adolescence represents a life stage characterized by significant biological, cognitive and psychosocial development. It is therefore not surprising that recommendations for future research included a focus on developmental questions and considerations. Recommended foci for developmental research were clustered into priority areas that reflect each of the following domains: biological, cognitive and psychosocial development. A fourth priority area called for research on the reciprocal interaction of biological, social and psychological development. Recommendations that addressed development as a vague, general outcome but that did not focus on specific developmental processes or issues are discussed elsewhere, according to the central focus of the recommendation. For example, recommendations regarding the impact of family, school and community conditions on general adolescent development are discussed in Chapter 3 (The Social and Environmental Context of Adolescents' Lives). Research recommendations focused on developmental psychopathology are covered in greater detail in Chapter 5 (Mental and Physical Disorders of Adolescence). A summary of each priority area and representative recommendations is shown below.

PRIORITY AREA

The Biology of Adolescence

Many recommendations called for basic research on biological development during adolescence, including attention to mechanisms and effects of biological and neuroendocrine maturation; sources of interference with or delay of pubertal processes (e.g., chronic illness); biological precursors to psychosocial and behavioral problems; and comparisons between the biology of adolescents and other age groups. There were also specific recommendations for using adolescent participants in biological research in order to better understand issues such as healthy physical activity levels at different developmental periods. Numerous recommendations called for biological research on puberty per se; many of these emphasized examination of the relationship between pubertal maturation and behavior, with interest in both the influence of pubertal timing and tempo on behavior, as well as the influence of various behaviors (e.g., physical activity) on pubertal delay. Many of the recommendations also emphasized the interactions among biologic and other developmental processes; these are discussed later. Examples of representative recommendations are:

- Study the hormonal effects of puberty on aggression and nurturing behavior. (MCHB, 1988)
- Further research is needed on the role of the neuroendocrine system in stimulating bone growth and its impact on the cognitive, emotional and behavioral changes of puberty. (NIH, 1993)
- Research is required to confirm pubertally-associated delays of the biological clock and to identify the underlying mechanisms. (NIH, 1993)

PRIORITY AREA

Adolescent Cognition

Recommendations for research on cognitive development were varied, ranging from generic appeals for studies on "cognitive development" to recommendations targeting specific areas of cognitive development. Most recommendations in the latter group focused on areas that would be considered to be related to cognitive development, but which may also have important non-cognitive components, such as

adolescents' health beliefs and attitudes. Interest in adolescent decision-making was also evident, in terms of how changes in cognitive processing might influence decision-making, the competence of adolescent decision-makers, and the impact of adolescents' decision-making on health-related and health-risk behavior. A number of recommendations stressed the importance of studying adolescent beliefs from a phenomenological perspective. Examples of representative recommendations are:

- Explore gender and other population differences in the timing and tempo of cognitive development and the effects of these differences on health beliefs and behaviors. (NINR, 1993)
- Increase understanding of the complex influences that affect health-related cognition, decisions and behaviors and how these change during development. (NIH, 1993)
- Support research on the capability of adolescents to decide whether or not to accept mental health treatment. (OTA, 1991)

PRIORITY AREA

Psychosocial Development During Adolescence

Psychosocial development encompasses a large and diverse range of phenomena. Like recommendations for cognitive development, many of the research recommendations regarding psychosocial development were broad and nonspecific, exemplified by recommendations for research on "psychosocial maturity" or "positive psychosocial development." More focused recommendations also emerged, primarily in three areas: skills development, emotional development, and the development of interpersonal relationships. Aspects of skills development that were highlighted in the recommendations included the development of social, coping, and communication skills. Understanding more about the conditions and/or characteristics that promote psychosocial competence in these areas was a distinct theme in the reports reviewed. Emotional development was primarily discussed in the context of other developmental issues such as the role of emotions as a mediator of biological transitions and health. Examples of representative recommendations are:

- Understand the supportive environments that foster optimal psychosocial development during adolescence, with particular attention to interpersonal relationships. (MCHB, 1988)
- Look at issues of attachment and transformation of interpersonal relationships and interpersonal competence; development of appropriate interdependencies; and development of healthy interpersonal relationships. (MCHB, 1988)
- Study successful adaptation/coping, and self-selection of maladaptive as well as adaptive coping strategies. (MCHB, 1988)

PRIORITY AREA

Understanding the Reciprocal Interaction of Biological, Social and Psychological Development

Numerous recommendations called for research to study the complex inter-relationships among biological, psychological and social development during adolescence, as well as the influence of these developmental changes on adolescent behavior and health. The focus of many recommendations was on understanding how these aspects of development influence and interact with one other: (e.g., the relationship between biological and social development). Other recommendations called for a general approach to adolescent research that considers the full range of biological, psychological and social factors and their influence on adolescent behavior, health and disorder, particularly mental disorder. Examples of representative recommendations are:

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- Research priorities should reflect a biopsychosocial perspective on adolescence, grounded in an understanding that substantive influences on young people emanate from the complex interplay of biological, psychological, social and structural factors. (MCHB, 1996)
- Encourage research on the extension of biosocial models of fertility and fertility-related behaviors. These models may fruitfully be extended to adult behaviors and to the investigation of the intergenerational transmission of behavioral patterns. (NICHD, 1992)
- Conduct human and animal studies using different genetically defined strains to examine the interaction among premorbid temperament/personality, cognitive functioning, and neurobiological, environmental and genetic factors in the development of addictive behaviors in adolescents. (NIAAA, 1995)

Chapter Commentary

In addition to the general priority areas discussed above, other recommendations for research were made that warrant mention here. For example, several recommendations called for research on normal adolescent development, particularly in racial and ethnic minority youth, as well as research that would increase our understanding of typical and atypical development. Knowledge about the vulnerabilities associated with different developmental stages, as well as the efficacy of preventive interventions at different stages, was also cited as an important need.

Of the four developmental priority areas described above, the greatest number of recommendations related to biological development. The majority of these recommendations posed specific and testable, albeit ambitious, research questions. A large cluster of biologically-oriented recommendations emphasized understanding the causes and sequelae of substance use and abuse. On the other hand, there was surprisingly little attention devoted to further understanding specific areas of cognitive development, such as judgment.

Many of the recommendations regarding research on adolescent development were non-specific directives to study "adolescent development." This may reflect, in part, the lack of existing measures for many developmental phenomena; in fact, several recommendations called for the development of assessment tools in areas such as cognitive development, social skills development, and biological maturation. Additionally, while many recommendations acknowledge the need to incorporate a developmental perspective, few recommendations themselves defined the important developmental questions. Without sufficient attention to basic developmental questions, the field will be severely limited in its ability to solve the most pressing problems in adolescent health.

3 THE SOCIAL AND ENVIRONMENTAL CONTEXT OF ADOLESCENTS' LIVES

The social context in which adolescents live has generated a significant amount of interest among researchers and those concerned with adolescent health and development. During the adolescent years, significant contextual changes take place in adolescents' lives. By virtue of their growing independence, adolescents expand their horizons beyond the family to include more distal social networks and a variety of social institutions. Familiar institutions with which adolescents interact also undergo changes in response to adolescents; schools, for example, shift from small settings to larger, less personalized ones. In addition, the social and economic contexts of adolescents' lives have undergone dramatic structural changes in the past two decades—increases in poverty and single-parent families are two notable examples. Conceptualized within the ecological framework (Bronfenbrenner, 1979; 1986), social contexts, classified from most proximal to most distal, include microsystems (the most proximal environmental contexts such as family and peers); mesosystems (the linkages between microsystems); exosystems (broader systems that influence adolescents such as communities and the health care system); and macrosystems (such as distal political, economic or cultural systems).

A large number of recommendations identified in our review called attention to the importance of studying the social and environmental contexts in which adolescents develop and function, and their influence on various aspects of adolescent health. For this reason, we have separated the recommendations in this chapter into three sections: those concerned with proximal interpersonal contexts related to adolescents' daily lives (such as families and peers); broader systems with which adolescents have contact (including schools, communities and health care services); and contexts at the macrosystem level (such as culture, race and economic status).

A. Proximal Interpersonal Contexts: Parents, Families and Peers

Recommendations concerning proximal interpersonal contexts highlighted five priority areas for research, including: family influences on adolescent development, health and behavior; coping and resilience in families experiencing personal and/or environmental stressors; understanding more about the experiences and needs of adolescent parents; how to strengthen families in order to better enhance adolescent health and development; and peer relationships during adolescence.

PRIORITY AREA

Family Influences on Adolescent Development, Health and Behavior

Recommended research on family influences ranged from studies on the effects of broad constructs such as "parenting styles" on adolescent development to more specific questions about the impact of specific parental behaviors on general adolescent development and behavior. The role of the family in adolescent drug use was a clear focus in several recommendations. Interest was evident in the role of positive parental behaviors, such as support, as well as a wide range of negative parental behaviors, including drug use, violence, abuse and neglect. Issues concerning parent-adolescent attachment and the quality of parent-adolescent communication and interaction were also raised. Examples of representative recommendations are:

- Support research on parenting styles and their effects on adolescent development. (OTA, 1991)

- Research should focus on the role that factors such as lack of family support (including ineffective parenting and lack of mutual parent-child attachment and warmth), family violence, and lack of male role models have on the initiation, continuation, escalation and cessation of inhalant use among individuals at high risk of using drugs, particularly minority youth. (NIDA, 1993)
- What are the psychological characteristics associated with having parent(s) who are alcoholic? Are these characteristics specific for children of alcoholics or are they similar to those found in offspring of other dysfunctional families? (NIAAA, 1992b)

PRIORITY AREA

Coping and Resilience in Families

Research topics suggested for future study emphasized learning more about how family factors, including coping and resilience, might mediate the effects of a variety of risks and stressors, including poverty, racism, family dysfunction and predisposition to mental disorders. Recommendations varied in the extent to which "risk" and "resilience" were defined in specific, researchable terms. Examples of representative recommendations are:

- Study how families manage adversity or are overwhelmed by it, and develop ways of insulating adolescents from adversity. (NCR, 1993a)
- In families experiencing chronic mental disorders, study which aspects of the disorder and family characteristics (e.g., psychological, interpersonal, structural, cultural) influence families' ability to cope with the illness. (MCHB, 1988)

PRIORITY AREA

Strengthening Families

Recommendations called for research that would identify, develop and test methods for strengthening families in general, especially those families struggling with disadvantages and stressors such as financial hardship, single parenthood and/or community violence. The evaluation of formal family support and intervention programs was called for, with attention to the most effective implementation approaches and issues such as intervention dosage and timing. Examples of representative recommendations are:

- Develop and evaluate intervention strategies to strengthen families, build peer and family support for healthful lifestyles, and prepare youth to adjust to and utilize the growth potential of stressful and potentially stressful family transitions. (NCR, 1993a)
- Study the enhancement of individual and family styles of coping with behavior problems and depression in American Indian, Alaska Native, and Native Hawaiian children and adolescents. (NIMH, 1993b)
- Studies need to be conducted to test how strengthening families through theory-based preventive intervention can counteract negative peer influences. (NIDA, 1996)

PRIORITY AREA

Adolescent Parents

Recommendations urged greater study of the determinants and consequences of adolescent parenthood; several recommendations were oriented toward the development of interventions to assist adolescent parents and to minimize the risk of adverse outcomes for teen parents and their children. Examples of representative recommendations are:

- Conduct longitudinal studies to look at support and coping mechanisms of families with adolescent mothers. (NRC, 1987)
- Study the role of the family in helping adolescent fathers accept and adjust to their new parenting roles and responsibilities. (MCHB, 1996)

PRIORITY AREA

Peer Relationships During Adolescence

A number of reports included recommendations for research on peer relationships during adolescence. Research areas highlighted included: factors that influence peer friendship formation and choice of peer groups; characteristics and quality of peer relationships; positive and negative influences of peer relationships on adolescents (and how negative effects can be countered by parental behavior); and the use of peers in health-promoting interventions. Examples of representative recommendations are:

- Study the determinants and outcomes of adolescents' close relationships with peers, considering the quality of the relationships, patterns of communication, and nature of the activities in which adolescents engage. (MCHB, 1988)
- Investigate community characteristics that help to determine peer group membership and influences on health-enhancing behaviors. (NINR, 1993)
- Examine the mechanisms by which peers can have a positive influence on risk-taking behavior and the development of competency through socially sanctioned experimentation. (MCHB, 1988)

PRIORITY AREA

Familial Abuse and Neglect

A large subset of recommendations regarding the influence of families and parental behavior on adolescents was concerned with familial abuse and neglect. Recommendations called for basic research to establish a consensus on the definitions of abuse and neglect, to determine reliable and valid assessment measures for abuse and neglect, and to document the incidence and prevalence of these problems at local and national levels. A diverse set of other research recommendations concerning abuse and neglect were also made, such as investigating the interactive and complex causes of maltreatment for different cultural and ethnic groups, exploring the longitudinal impact of maltreatment on adolescent health and development, and evaluating the effectiveness of governmental agencies' responses to maltreatment. The need for federal leadership in research funding and in developing collaborative research relationships was also noted. Examples of representative recommendations are:

- Reliable and valid clinical-diagnostic and research instruments for the measurement of child maltreatment are needed to operationalize the definitions of each form of child abuse and neglect. (NCR, 1993b)
- How are the effects of child abuse or neglect, disturbed family relationships and parental mental illness mediated? (NIMH, 1991)
- Research that clarifies common and divergent pathways in the etiologies of different forms of child maltreatment for diverse populations is essential to improving the quality of future prevention and intervention efforts. (NCR, 1993b)

Section Commentary

Concerns with risk and resilience, the impact of dysfunctional families on adolescents, and the need to strengthen both adult- and adolescent-led families were themes that spanned the family-related research priority areas. Research recommendations regarding the role of peer relationships in adolescent health and development did not assume that peers would exert a negative influence; instead, they called for a more balanced and differentiated investigation of both positive and negative effects of peer relationships. Additional themes reflected in the recommendations included the reciprocal interaction of peer and family relationships and the development and testing of interventions that rely on peers and that strengthen the health-enhancing aspects of peer relationships. A large number of recommendations included parents and/or families as one of many important contextual influences on adolescents (along with peer, community and schools) but did not

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focus on the specific roles that families might play vis-á-vis other relevant environmental factors.

B1. Broader Environmental Contexts: Schools

A large portion of adolescents' time is spent in school settings; as such, there is significant interest in the role that schools can play in the lives and health of adolescents. Three priority areas for research emerged from the recommendations: the impact of school organization and institutional practices on adolescents; school transitions and their effects on adolescents; and the development and evaluation of schools as intervention and service delivery sites. Each of these priority areas is described below.

PRIORITY AREA

School Organization and Practices

A variety of school practices and organizational structures were suggested as areas worthy of future research. Among these were general recommendations for research to explore the types of schools that work best, and studies on the effects of "school climate." More specific recommendations were also made for research on the effects of practices such as grade retention, tracking and expulsion. There was interest in studying the effects of various school attributes on adolescents in general and on vulnerable adolescents, such as those with chronic disabilities or at high risk for school failure. Recommendations were also made for research on the role of schools as norm setters and enforcers of health behavior. Examples of representative recommendations are:

- Evaluate alternatives to traditional school organization and instructional practices to identify ways of improving school climate for all students. (NCR, 1993a)
- Evaluate the impact of educational mainstreaming on youth with chronic morbidities. (MCHB, 1988)
- Research is needed regarding alcohol-related norm setting and norm enforcement by elementary and secondary public and private schools, school systems, colleges and universities. (NIAAA, 1992c)

PRIORITY AREA

School Transitions

Research examining the influence of school transitions on a range of adolescent outcomes, including self-esteem, social competence, and health-related beliefs and behavior, was suggested. There were also recommendations to study how the effects of these transitions might differ for adolescents from various economic, racial and ethnic backgrounds. Recommendations emphasized the developmental importance of school transitions and potential sources of transition-related stress that should be considered in intervention research. A few recommendations addressed the issue of transitions from school to work. Examples of representative recommendations are:

- Investigate patterns of change across school transitions in domains such as social and physical competence. (NINR, 1993)
- Evaluate specific interventions aimed at improving adolescents' transition from school to work. (NCR, 1993a)

PRIORITY AREA

Schools as Intervention and Service Delivery Sites

Recommendations focused on a number of ways in which schools can be involved in intervention efforts. One set of recommendations called for the development and evaluation of school-based prevention and health promotion programs across a number of areas such as sexuality, substance use and school retention. In

some recommendations, the school-based nature of the intervention was seen as central, while others included schools as just one of many sites at which interventions should be studied. Another set of recommendations focused on the role of the school as a site for the delivery of health services. Examples of representative recommendations are:

- Identify the essential elements of school-based smoking prevention programs. (NIH, 1993)
- Research should be conducted on school-based services, particularly on the organization, management, efficacy and cost-effectiveness of extended services. (IOM, 1997)
- Promote research studies that examine the relationship between theory-based prevention intervention strategies delivered in schools and drug-using behaviors, delineating the effects of these interventions on the following domains: cognitive, affective/interpersonal, and behavioral. (NIDA, 1994b)

Section Commentary

Recommendations for research on schools varied widely in content and specificity. The bulk of recommendations were in the areas of school transitions and the use of schools as interventions. The emphasis on school transitions as a needed area of research calls attention to the fact that most adolescents change school environments twice in adolescence (from elementary to middle/junior high and from middle/junior high to high school). An additional theme that emerged in the school-related recommendations was the need to understand more about factors that encourage adolescents to stay attached to schools and prevent dropping out.

B2. Broader Environmental Contexts: Neighborhoods and Communities

Neighborhoods and communities represent an important environmental context for adolescents and their families, providing residents with specific resources and opportunities, models for role behavior, and exposure to a range of positive and/or negative elements. Community-oriented research recommendations identified three priority areas for research: the influence of community factors on adolescent health; the use of communities as sites for interventions; and methods for characterizing and assessing communities.

PRIORITY AREA

The Role of Communities and Neighborhoods in Adolescent Health and Development

The majority of recommendations in this area were broadly focused, calling for consideration of the role of community characteristics in adolescent development but not specifying the particular aspects of communities or neighborhoods to be assessed. A smaller set of recommendations emphasized the influence of neighborhood characteristics, including physical resources and social relationships, on adolescents. Examples of representative recommendations are:

- Examine how the physical conditions (e.g., the decrepitude of housing stock, abandoned buildings and littered streets) and social conditions (e.g., gangs, organized drug markets) of poor, urban settings affect adolescents. (NCR, 1993a)
- Compare the health behavior of youth in different community settings; identify and assess community characteristics (such as parks, recreation facilities and libraries) that promote or constrain health-promotion activities. (NINR, 1993)

PRIORITY AREA

Using Communities as Intervention Settings

A large number of recommendations focused on the need for evaluation of community-based health promotion and prevention interventions for a range of concerns, including cancer, substance use and early, unprotected sexual activity. Recommendations differed in the extent to which they focused on the community and community factors. In some, the community as a whole was conceptualized as the target of change; in others, the community was the setting in which individual-focused interventions were to be delivered. Examples of representative recommendations are:

- Develop and test intervention strategies aimed at communities to promote: developmentally-appropriate social competence; responsibility for own health; sense of self, autonomy and empowerment; healthy stress management; conflict resolution; and violence reduction. (NINR, 1993)
- Develop and test community-based models to increase access to health care in rural areas. (NIH, 1993)

PRIORITY AREA

Characterizing and Assessing Communities

A set of highly specific, methodology-oriented recommendations outlined areas of needed research for defining and assessing neighborhoods and communities. These included research documenting the availability and accessibility of social services; patterns of deterioration and growth; rates of social and economic change; and the nature of social interactions in the community. Research combining qualitative and quantitative approaches was also recommended. Examples of representative recommendations are:

- Research needs to consider more than physical factors in neighborhood settings; the types and levels of social interactions within a community involve dynamic and interpersonal elements that may reflect the quality of services and institutions, levels of trust and security, homogeneity and density of friendship networks, flow of information and resources, coherence of values and perceptions among community residents, and opportunities for power and influence. (IOM/NRC, 1996)
- Consistent and meaningful boundaries are crucial to the development of studies that rely on quantitative and qualitative measures of change or stability in order to demonstrate neighborhood-level influences on human development. (IOM/NRC, 1996)

Section Commentary

A substantial number of recommendations called for research to examine the role of community factors in shaping adolescent health, and for using communities as settings for interventions. A large number of recommendations implicitly or explicitly addressed the need to change community contexts in some manner in order to promote healthier adolescent development. Communities were frequently considered as one of the many settings in which interventions should be implemented, often appearing as part of a "laundry list" of settings that typically also included families and schools. Documents varied widely in the extent to which they defined the salient aspects of community functioning, and few provided specific recommendations that could actually be used to guide the assessment of community-level factors and their impact on adolescent health and development.

B3. Broader Environmental Contexts: Health Care Systems and Policies

Recommendations regarding adolescents and the health care system identified a number of priority areas for research, including studies on health services, health care providers and health policy. In the area of health services, recommendations were numerous enough to separate into two priority areas, one dealing with the organization of health services and the other with a more diverse set of recommendations regarding health services research. Thus, a total of four priority areas for research were identified: adolescent health services; the organization of health services; health care providers; and the influence of health policies on adolescent health.

PRIORITY AREA

Adolescent Health Services

A large and diverse set of recommendations was made regarding priorities for adolescent health services research. These included recommendations for research on adolescents' health service needs, as well as research on utilization, health outcomes and cost-effectiveness. Many recommendations highlighted specific preventive and treatment services in areas such as primary care, mental health, emergency medical services, contraception, substance abuse, and chronic physical disorders. A cluster of recommendations focused on the evaluation of the effectiveness of emergency services for both medical and mental health concerns, particularly for special populations of adolescents such as those who have attempted suicide, are victims or perpetrators of violence, are survivors of natural or technological disasters, or are HIV-positive.

Methodologically-oriented recommendations urged more detailed evaluations of children's mental health services that would take into account a host of factors, including environmental and family conditions, children's developmental level, and the settings in which interventions are implemented. Examples of representative recommendations for health services research are:

- The definition of what services are "medically necessary" and, therefore, covered by insurers is an increasingly contentious issue that requires clarification. (AHCPR, 1997)
- Study the extent of the need for adolescent mental health services and the most effective prevention and treatment interventions. (NCR, 1993a)
- Research priorities should focus on appropriate risk-adjustment measures for adolescents. Risk-adjustment measures for capitation or rate-setting purposes need to adequately represent the populations of adolescents for whom great variation in service utilization and costs might be expected (e.g., homeless, out-of-school youth, adolescents with special health care needs). (MCHB, 1996)

PRIORITY AREA

Organization of Health Services

A cluster of recommendations focused specifically on the organization of health services, with particular focus on the description and evaluation of integrated, coordinated services. Methodologically-oriented recommendations included the need for longitudinal evaluations, multi-site research, studies of "matched" communities with and without coordinated service approaches, and the importance of independent evaluations of coordinated service interventions. Consideration of the effectiveness of coordinated service programs for special populations (e.g., emotionally disturbed adolescents) was urged. There was also interest in managed care, including the impact of the transition to managed care on health services for youth. Examples of representative recommendations are:

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- Research should assess the effect of organizational changes (of managed care) on children and adolescents as distinct populations, as well as the impact of financial incentives on the scope and level of preventive, acute, chronic and medical services provided to these populations. (AHCPR, 1997)
- There is a need for comparative studies of integrated community health delivery programs to determine the effectiveness of various models. (MCHB, 1988)
- Research should assess whether contraception has been enhanced or restricted by various managed care arrangements. (IOM, 1995b)

PRIORITY AREA

The Relationship Between Adolescents and Health Care Practitioners

A distinct cluster of recommendations focused on questions regarding the role that different kinds of health care providers—including pediatricians, nurses and nonprofessionals—might play in influencing adolescents' access to and utilization of services as well as the quality and cost-effectiveness of those services. Promoting adolescent-provider attachment by identifying the most important provider characteristics, and selecting and training health care providers with these characteristics in mind, were the subject of several recommendations. Examples of representative recommendations are:

- Investigate the extent to which provider characteristics, including communication styles, behavior, education and experience, affect and facilitate health promotion efforts. (NINR, 1993)
- Design and test developmentally-appropriate health promotion interventions for youth that involve regular, periodic contact with health providers, and evaluate the interventions' effectiveness in promoting long-term maintenance of a variety of health behaviors. (NINR, 1993)
- With regard to preventing alcohol abuse, compare the effectiveness of guidance offered by doctors versus nurses or other allied health professionals in a variety of teachable moments such as the onset of puberty. (NIAAA, 1992a)

PRIORITY AREA

Health Policy Affecting Adolescents

Recommendations in this area ranged from topics such as the broad impact of federal funding and legislation on adolescent health to more specific questions about the effects of parental prerogatives on adolescent hospitalization and of parental consent requirements on adolescents' utilization of contraceptive services. Several recommendations suggested studying the impact of governmental (federal, state and local) policies and programs on adolescent risk behavior, particularly substance use and driving under the influence of alcohol and other drugs. Another set of recommendations called for the federal government to legislate the development of collaborative agencies and grant funding in specific health-related areas such as emergency medical services. Examples of representative recommendations are:

- Support research to determine the extent to which parental prerogatives to hospitalize adolescents for mental health or substance abuse problems cause harm to adolescents. (OTA, 1991)
- How have parental consent requirements, child support enforcement programs and grandparent liability provisions affected male and female reproductive decisions, family relationships and the well-being of mothers and children? (NRC, 1987)

Section Commentary

The most specific, testable research questions emerged in relation to integrated services or to specific services, such as emergency care. Although there was clear interest in broad health services issues such as utilization, recommendations in these areas tended to be fairly general.

B4. Other Broad Environmental Contexts

These reports identified a variety of additional environmental contexts for further study. Recommendations emphasized two main priority areas for research: the juvenile justice system and the mass media. Other environmental contexts with too few recommendations to qualify as "priority areas" are discussed in the section commentary.

PRIORITY AREA

Juvenile Justice System

Recommended research regarding the juvenile justice system spanned a range of topics, including: the long-term impact of the juvenile justice system on the development of incarcerated adolescents; juvenile detention facilities as a setting for service delivery; the neglect of juvenile offenders as a special population in epidemiological research; and alternatives to traditional detention for juvenile offenders. Examples of representative recommendations are:

- Support research on effective rehabilitation approaches for juvenile offenders in the community rather than institutions. (OTA, 1991)
- Support research to assess which treatment models are most effective for youth in community and juvenile correctional settings who demonstrate antisocial and/or aggressive behavior. (NIMH, 1991)

PRIORITY AREA

Mass Media

Recommended research regarding the mass media focused on investigating the potential positive and negative influences of the media with regard to adolescents' participation in either health-promoting or health-risk behavior, particularly in the areas of sexual behavior and substance use. Examples of representative recommendations are:

- Study how the media influences adolescent reproductive and fertility decisions and how it can be used to promote positive reproductive outcomes. (NRC, 1987)
- Research is needed on the impact of advertising on the development of alcohol expectancies and drinking behavior, especially among youth. (NIAAA, 1992c)
- Tobacco prevention research should be sensitive to youth responses to advertising and promotional messages, and should assess the successes and failures of various advertising campaigns. (IOM, 1994)

Section Commentary

There were a small number of recommendations regarding broad environmental contexts other than neighborhoods, communities or the health care system. Other environmental contexts mentioned included the welfare system, work settings, and recreation facilities. Recommendations regarding the welfare system were generally concerned with monitoring the functioning of youth within that system and the need to prevent adolescents' future welfare dependence by creating positive incentives for them to stay in school. Research regarding work focused on the need to evaluate adolescents' transition from school to work and to assess the impact of early work experiences on adolescent development. Recreation-oriented recommendations highlighted the importance of evaluating the quality of recreational facilities—particularly in poor neighborhoods—and of surveying adolescents' preferences for recreational facilities. The limited quantity of recommendations regarding research on the mass media was surprising given the attention this topic has received with regard to media portrayal of sexual activity, violence and standards of beauty for females.

C. Distal Environmental Contexts: The Macrosystem Level

As discussed earlier, ecological models (e.g., Bronfenbrenner, 1986) conceptualize macrosystem contexts as the most distal level of environmental influences, including cultural, political and economic systems. These contexts are often less tangible and more difficult to define or change than the contextual factors discussed thus far. Yet macrosystems are critical to consider as they provide the overall setting in which individuals and their more proximal environmental contexts are situated. Macrosystem-level recommendations generally called for research to identify the effects of culture, economic class, race/ethnicity, and gender on adolescent health and development. We distinguish between recommendations that focus on macrosystem contexts as the *topic* of research and recommendations that discussed ethnicity, economic status and/or gender as characteristics of individuals or populations to be *included* in proposed research. Recommendations that primarily suggested the inclusion of ethnic minority, poor, or culturally diverse groups of adolescents as research participants or intervention "targets" are discussed in Chapter 7 under "Special Populations," whereas those suggesting research questions about the influence of macrosystem factors of race, culture, economic status and/or gender are included here.

PRIORITY AREA

Macrosystem Factors: Culture, Economic Class, Race, Ethnicity and Gender

Recommendations calling for research on macrosystem-level factors such as culture, economic class, race, ethnicity and/or gender often explicitly urged the consideration of many or all of these factors at once, rather than focusing exclusively on one factor. Thus, these macrosystem factors have been clustered into one priority area. Interest in the influence of macrosystem factors spanned multiple research areas, including cognition, health behavior, chronic medical problems and risk behavior. Macrosystem factors received particular emphasis in recommendations concerned with sexual activity and substance use. Examples of representative recommendations are:

- Study how race, culture and socioeconomic status (SES) influence sexuality and fertility decisions: (e.g., do race differences in patterns of sexual and fertility behavior reflect deep-seated subgroup values or more transient attitudinal adjustments to external circumstances?). (NRC, 1987)
- Study developmental trajectories of drinking behavior for subgroups according to gender, ethnicity and various indicators of high risk. Research is also needed to identify the underlying mechanism by which ethnic and racial differences in the use of alcohol by high school seniors occurs, as well as the cultural factors involved in preventing alcohol-related problems among racial and ethnic groups. (NIH, 1993)
- Assess the effects of discrimination on neighborhoods and on the lives of adolescents and their families, seeking to identify independent and interactive influences of class, race, gender and ethnicity on adolescent development. (NCR, 1993a)

Section Commentary

The extent to which recommendations suggesting research related to culture, economic class, race/ethnicity and gender specifically focused on these issues varied widely. Some recommendations were explicitly concerned with mapping the direct effects of these factors on adolescent development and risk behavior, whereas the majority of recommendations urged consideration of multiple kinds of "diversity" in a broader, more peripheral manner. Methodological issues raised by recommendations included the need for more sophisticated analyses of the independent and interactive effects of multiple macrosystem factors (such as ethnicity and socioeconomic status) on adolescent health.

Chapter Commentary

Judging by the number of recommendations, research on contextual factors has emerged as a clear and important objective in adolescent health. The most numerous and specific recommendations focused on more proximal factors—peer and family in particular—rather than on larger, macrosystem factors. This emphasis on proximal factors may reflect the methodological challenges posed by assessing more distal factors which are difficult to conceptualize and measure. It may also reflect a lack of familiarity with macrosystem factors on the part of the authors of the documents reviewed for this report. Although these factors have historically been considered by sociologists, they have been less well studied in the fields of psychology and medicine.

Many of the recommendations failed to offer clear directives for examining contextual factors should be examined, the specific role that they might play in adolescent health and development, or the influence of one contextual factor upon another. For example, numerous recommendations discussed the need for research on "community factors," but only one document specified the kinds of community factors that should be assessed and how. Specific contexts were frequently listed among factors worthy of study: for example, recommendations often called for research to examine the role of "families, peers, schools and communities" in adolescent health.

4 HEALTH-ENHANCING AND HEALTH-RISK BEHAVIORS

In North America, adolescence is generally viewed as a time of increased responsibility for and/or experimentation with a variety of health-related behaviors such as nutrition, exercise, romantic and/or sexual activity, and substance use. Habits formed during adolescence—both health-promoting and health-damaging—can set the stage for a lifetime of health-related practices. Four priority areas for research on health behaviors were identified, including: biopsychosocial influences; risk behavior trajectories and covariation; differentiation between healthy and unhealthy risk taking; and the development and evaluation of interventions to promote healthy behavior and/or reduce health-risk behavior.

PRIORITY AREA

Biological, Psychological and Social Factors: Their Inter-Relationships and Influences on Health Behavior

A large number of recommendations called for increased research on the interactive, biopsychosocial determinants of risk behaviors, ranging from individual biological factors, such as hormones and pubertal development, to larger social factors and contexts such as peers, families, schools and communities. Substance use was a risk behavior that received substantial attention in the reports we reviewed. Recommendations highlighted the bi-directionality of the biology-behavior relationship, posing research questions about the impact of health behavior on biological development, as well as the effects of pubertal shifts and predisposing biological risk factors on the initiation and maintenance of risk behaviors. Examples of representative recommendations are:

- Explain the biobehavioral bases for health-promoting and health-damaging behaviors, including how responses to life experiences may alter biological structures and functions. (NIH, 1993)
- Research should be conducted to assess which developmental, psychological and social factors increase the propensity of some adolescents to engage in health- and life-threatening behaviors. (NIMH, 1991)
- Human studies and animal studies using different genetically-defined strains should be conducted to examine the interaction among premorbid temperament/personality; cognitive functioning; neurobiological, environmental and genetic factors in the development of addictive behaviors in adolescents. (NIAAA, 1995)
- The following issues warrant attention in problem-solving initiatives for violence prevention: development of violent sexual behavior and the importance of exposure to abnormally high testosterone levels during fetal development; childhood sexual abuse victimization; the learning of tolerant attitudes toward violent acts against women; the development of sexual preferences for violent stimuli; and chronic alcohol use. (NCR, 1993b)

PRIORITY AREA

Health-Risk Behaviors: Covariation and Trajectories

A large set of recommendations focused on the need to map patterns of risk behaviors and the trajectory of risk behaviors over time. There was particular interest in identifying early behaviors that serve as precursors or predictors of later or more severe risk behaviors—an area of research with clear implications for early intervention and secondary prevention programs. Examples

of representative recommendations are:

- Support research to determine which adolescent behaviors have their origin in early childhood development and therefore need to be addressed with interventions prior to adolescence. (MCHB, 1988)
- Support research examining the following questions: are there consistent age-related progressions of problems in children of alcoholics? Do particular early problems serve as warning signs of later problems? Can effective prevention strategies be developed and implemented for these at-risk children? What are the positive and negative effects of labeling children "at-risk?" (NIAAA, 1992b)
- Study the role of criminal activity (including deviance and rebelliousness) in inhalant users. (NIDA, 1993)

PRIORITY AREA

Differentiating Healthy From Unhealthy Experimentation With Risk Behavior

There is considerable debate regarding the extent to which risky, "rule-breaking" behavior is normative or deviant during adolescence, as reflected in recommendations for research to more clearly distinguish healthy "experimentation" and "exploration" from damaging patterns of risk behavior in adolescence. Studies to track the long-term consequences of engaging in risk behaviors and to distinguish adolescents who suffer long-term effects from those who do not were also suggested. Examples of representative recommendations are:

- We need to understand more about exploratory behavior and how it differs from risk-taking behavior (e.g., the undesirable effects of such behavior and their relative tendencies to impede positive psychosocial development). (MCHB, 1988)
- Examine the mechanisms by which peers and adults can have a positive influence on risk-taking behavior, and the development of competency through socially sanctioned experimentation. (MCHB, 1988)

PRIORITY AREA

Developing and Evaluating Interventions to Promote Healthy Behavior and Reduce Health-Risk Behaviors

There were numerous suggestions for the development and evaluation of interventions (including formal treatments and policies) designed to influence health-related behaviors. There was greater emphasis on and specification of the kinds of risk behaviors to be prevented or reduced than on the healthy behaviors to be promoted. Risk behaviors of concern included alcohol and other substance use, sexual activity and violent behavior, while areas of health promotion included medical check-ups, physical exercise, good nutrition, and maintenance of dental health. A wide range of approaches was suggested, with interventions targeted at multiple facets of adolescents' lives, including family, peer group, school and community. Examples of representative recommendations are:

- Encourage rigorous scientific study of multiple component substance abuse prevention technologies implemented across several systems, including schools, families, peers and the social environment (workplace and community) to determine their efficacy and effectiveness in preventing the onset of drug use and abuse. (NIDA, 1994a)
- Assess the residual effects of previously evaluated violence prevention interventions that initially exhibited significant effects in reducing violent behavior, violence-related injuries, or intermediate indicators (e.g., aggressiveness). (CDC, 1996)
- Violence problem-solving initiatives should attend to the comparative and cumulative effects of pre-school educational enrichment and early-grade school interventions, including tutoring by peers or trained high school students, early-grade school failure rates, childhood aggression, and later adolescent and adult violence. (NCR, 1993b)

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Chapter Commentary

Basic research on health-risk behaviors—how to define them, distinguish them from "normative" exploratory behaviors, understand their inter-relationships, and map their trajectories over time—was highlighted by recommendations in this area. In addition to the priority areas described above, a small but critical set of recommendations emphasized the importance of learning more about the functional meaning of adolescent risk behavior and about adolescents' perceptions of the risks involved in particular types of health-related behavior. Such research could provide potentially valuable information with which to guide effective health education and health promotion efforts.

Approximately half of the recommendations in this chapter were concerned with health-risk behavior in general, whereas others focused on specific areas of risk behavior such as violence, sexual activity, or substance use. The most specific, well-articulated recommendations were found in the areas of substance use and violence. Recommendations in the area of violence prevention placed a special emphasis on larger institutional and policy issues such as the juvenile justice system and gun laws. In general, recommendations regarding the development and evaluation of intervention programs tended to focus on particular types of risk behaviors (e.g., sexual behavior or substance use).

5 PHYSICAL AND MENTAL DISORDERS DURING ADOLESCENCE

During adolescence, many people experience the onset of physical or psychological disorders. Others experience changes—for better or for worse—in the course or severity of existing disorders. Research on physical and mental disorders in the adolescent years can provide important insight not only about adolescent health needs, but also into the course and prevention of disorders that originate in adolescence and persist throughout the life span. Recommendations calling for increased research on physical, psychological and developmental disorders that affect adolescents were broadly categorized into those mainly addressing "medical problems" and those addressing "mental disorders." This distinction was made for organizational purposes and ease of presentation and should not be interpreted to mean that the two phenomena are unrelated.

A. Recommendations for Research on Medical Problems

Medically-oriented recommendations reflected three priority areas: the prevalence and incidence of general medical problems and specific disorders; the natural history and etiology of medical disorders; and evaluating the impact of interventions on adolescents with medical problems.

PRIORITY AREA

Prevalence and Incidence of Medical Problems

Many recommendations suggested the routine, systematic collection of data documenting the prevalence and incidence of a variety of health problems, including sexually-transmitted diseases and substance abuse. The need for more specific information about special populations in national data sets was also emphasized. Examples of representative recommendations are:

- Support routine collection of data on the prevalence of a broad range of physical health problems, including serious, chronic problems of low prevalence and chronic problems of importance to adolescents. (OTA, 1991)
- Support research on illnesses that originate in adolescence; Those that are first identifiable in adolescents but may occur later; and those for which adolescents are at highest risk. (MCHB, 1988)

PRIORITY AREA

Natural History and Etiology of Medical Problems

One cluster of recommendations called for increased study of the natural history of illnesses affecting adolescents, in addition to study of the biopsychosocial causes and precursors of these disorders. More research on the psychological and developmental impact of health problems—particularly chronic ones—was also suggested. Examples of representative recommendations are:

- Support research focusing on natural histories of illness and health conditions affecting youth. (MCHB, 1988)
- Explore the biomedical precursors of psychosocial problems for adolescents with chronic illnesses and the secondary impact of the illness, treatment and medications for adolescents with chronic physical and social morbidities. (MCHB, 1988)

PRIORITY AREA

Evaluating the Prevention and Treatment of Medical Problems

Recommendations were concerned with the effects of multiple types of interventions—including prevention programs, treatment programs and health policies—on adolescents. The development and evaluation of medical interventions and programs tailored to adolescents and to special populations of adolescents were also mentioned as important areas for future study. Examples of representative recommendations are:

- Pilot intervention studies for the prevention and treatment of diabetes mellitus in adolescents, focusing on dietary and therapeutic interventions, are needed. (NIH, 1993)
- Develop, evaluate and disseminate effective cancer risk reduction methods and materials for high-risk youth (defined as children or adolescents aged 1 to 18 years who are from low socioeconomic status households or communities). (NCI, 1994)
- An entire range of studies is necessary to evaluate the outcomes and relative effectiveness of alternative treatments for common, high-cost pediatric conditions such as asthma and attention deficit disorder. (AHCPR, 1997)

Section Commentary

In addition to the priority areas described above, other research questions and issues worthy of attention included: the psychological and developmental impact of medical illnesses on adolescents; the need for well-designed, longitudinal studies of the costs and benefits of preventive health care services for youth; and the need for national clinical trials conducted by the NIH and FDA to include adolescent-specific data. Interest in the three priority areas—prevalence and incidence of medical problems, natural history and etiology of medical problems, and the impact of the prevention and treatment of medical problems—was reflected in a variety of consensus documents.

B. Recommendations for Research on Mental Disorders

Recommendations reflected four priority areas for research on mental health: prevalence and incidence of mental disorders; biopsychosocial causes and risk factors for the development of mental disorders; factors that promote resilient mental health; and the evaluation of treatment and services for mental disorders.

PRIORITY AREA

Prevalence and Incidence of Mental Disorders

Recommendations urged more comprehensive study of the prevalence and incidence of mental disorders in the general adolescent population and in special populations, including adolescents from racial and ethnic minority groups and from families experiencing substance abuse or mental disorders. Examples of representative recommendations are:

- Studies are needed to establish the prevalence, incidence and risk factors for specific mental disorders, as well as problem behaviors that fall below traditional diagnostic thresholds (e.g., suicidal behaviors, adjustment reactions, aggressive and violent behaviors). (NIMH, 1991)
- Investigate the types and frequencies of mental health problems in special populations (such as homeless children, racial and ethnic minority youth, children of single or divorced parents, rural adolescents, and adolescents from families with criminal, mentally disordered or substance-abusing parents or siblings). (NIMH, 1991)
- Conduct epidemiological research on the prevalence of mental disorders to provide a basis for estimating the mental health service needs of adolescents and to examine problems associated with access and utilization. (IOM, 1989)

PRIORITY AREA

Biopsychosocial Causes and Risk Factors of Mental Disorders

Recommendations emphasized the need for greater understanding of the complex and potentially interactive influences of biological, social-environmental and psychological conditions in the development and course of mental disorders in adolescents. Testing the validity of existing models and theories of the etiology of mental disorders in diverse populations of adolescents was also encouraged. The majority of recommendations referred to mental disorders in general and did not specify the study of particular psychological problems. Examples of representative recommendations are:

- Research should be conducted to assess the effects of persistent psychological adversity, such as disorganized and inadequate schooling, on the development of mental disorders and associated mental health problems. (NIMH, 1991)
- Systematic research is needed on the causes and determinants of mental disorders in adolescents, focusing on those with high prevalence and the greatest burden of suffering (i.e., neuropsychiatric disorders such as autism and Tourette's disorder; attention-deficit hyperactivity disorder; depressive and anxiety disorders; and conduct disorders, particularity those characterized by violent antisocial acts). (IOM, 1989)
- Study aspects of affective disorders in adolescents, including: the neuroendocrine relationship between affective and eating disorders; the power of neuroendocrine and sleep abnormalities for predicting affective disorders; and identification of the relevant genetic region; and screening implications if affective and other psychological disorders have a genetic component. (MCHB, 1988)

PRIORITY AREA

Factors that Promote Resilience to Mental Disorders

One set of recommendations focused on the need to study biopsychosocial characteristics and conditions that may protect adolescents from mental disorders despite exposure to major stressors or other risks factors. Examples of representative recommendations are:

- Support research to determine which, if any, interpersonal and family variables are associated with adaptive outcomes in children who are at risk for developing mental disorders or have already developed a mental disorder. (NIMH, 1991)
- Support innovative studies on risk and protective factors as they relate to specific mental disorders. (IOM, 1989)

PRIORITY AREA

Evaluating Treatment and Services for Mental Disorders

A large number of recommendations were made regarding the evaluation of treatment approaches and services for adolescents with mental disorders, including psychotropic medication, outpatient psychotherapy, and emergency mental health services. Some highly specific, methodologically-oriented recommendations highlighted key issues in the evaluation of intervention effectiveness and cost-effectiveness such as the development of uniform outcome measures. Examples of representative recommendations are:

- Increase support for direct tests of treatment, including small scale outcome studies, clinical drug trials, evaluation of combined treatments, matching of treatments to clinical problems, tests of treatments used in clinical practice, and the extension of effective techniques to practice. (IOM, 1989)

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- Support research to determine how developmental, biologic and contextual factors affect adolescents' response to treatment. (NIMH, 1991)
- The important questions, rather than assessing the overall effectiveness of children's mental health services, may seek to identify which specific follow-up or concomitant parental, family, school, and other systems interventions are the most effective. (OTA, 1986)

Section Commentary

Recommendations in this area varied widely in scope and specificity. A significant proportion of the recommendations suggested highly specific and clearly articulated research questions. Recommendations regarding mental health treatment outcomes were striking in their level of complexity and refinement; these recommendations focused less on overall treatment effects and more on comparing the effectiveness of particular treatment modalities (e.g., group, family, individual, school) for well-defined populations of adolescents (e.g., abused and neglected, those with multiple disorders). Attention was also placed on the need to investigate the effectiveness of emergency mental health services for special populations of adolescents such as those with special medical needs (e.g., AIDS, physical injury) or those who have experienced violence, abuse, and/or attempted suicide.

Chapter Commentary

There were far more recommendations focusing on "mental" health and disorders than on "physical" disorders. As the chapter suggests, several similar Priority Areas emerged from recommendations focused on mental and physical health: the prevalence and incidence of disorders; the natural history and course of disorders; and the evaluation of intervention and treatment for these disorders. The need to study the impact of chronic disorders on adolescents and their families; to develop consensus definitions of health and disorder; and to develop better, validated measures were additional themes reflected in both mental and physical-health-oriented recommendations. Mental health recommendations placed a greater emphasis on biopsychosocial causes of disorders, resilience and the methodology of treatment research than did physical health recommendations. For example, understanding more about the optimal fit between treatment approaches and patient populations—how and why some treatments work better for some individuals than for others—received substantial attention in mental health recommendations, but not in physical health recommendations. There was interest in the psychosocial consequences of medical disorders reflected in physically-oriented recommendations, but none expressed the possible psychological precursors or risk factors associated with medical disorders. In contrast, a significant number of mental health-oriented recommendations were concerned with evaluating the possible role of biological vulnerabilities or risk factors in the development of mental disorders.

6 CONDUCTING RESEARCH ON ADOLESCENT HEALTH: APPROPRIATE APPROACHES AND NECESSARY RESOURCES

Many of the documents reviewed went beyond suggestions regarding the content of recommended research on adolescent health and development. Some recommendations also suggested ways to improve the overall research endeavor, primarily through changes and advances in the methodological approaches used to study adolescent health. Additionally, recommendations were made regarding the human and fiscal resources that will be necessary in order to conduct the recommended research.

A. Research on Adolescent Health: Populations, Methods and Approaches

Recommendations for research strategies in adolescent health identified five priority areas: increasing the diversity of research participants; increasing the use of longitudinal research designs; the integration of theory in basic and applied research; the integration of diverse research perspectives and approaches in research on adolescent health; and improving the evaluation of interventions.

PRIORITY AREA

Increasing the Diversity of Research Participants

There were numerous general calls for using more ethnically, socially and culturally diverse research participants in a variety of content areas. Adolescents with the following characteristics were specifically cited for greater participation in adolescent health research: low-income, racial/ethnic minority, low-achieving, immigrant, rural-dwelling, gay, homeless or runaway, those from families experiencing divorce, those with mental disorders and/or substance abuse problems, school dropouts, disabled, and those living in institutions or residential settings. Examples of representative recommendations are:

- The field should pay special attention to those who have hitherto been largely ignored in research on adolescent development—racial and ethnic minorities, persons with physical or emotional disabilities, those from families with low incomes, and those who experience disadvantage and limited opportunities, such as immigrant and homeless adolescents. (NCR, 1993a)
- Conduct population-based, longitudinal investigations of the consequences of pregnancy for different categories of adolescents, such as males versus females, younger versus older adolescents, those from low versus middle socioeconomic status, and white versus African-American adolescents. (MCHB, 1996)

PRIORITY AREA

Longitudinal Research

Research recommendations across a broad range of content areas identified the need for longitudinal studies in order to understand developmental changes, the effects of developmental transitions, variations in developmental trajectories as a function of specific factors, precursors of various health and health-related problems, and short- and long-term health outcomes. There was a particular emphasis on prospective longitudinal research to assist in mapping the course of mental disorders in adolescence. Examples of representative recommendations are:

- Conduct longitudinal research to define developmental trajectories and to identify risk factors for health-compromising and health-enhancing behaviors. Map adolescent health disorders with their childhood antecedents and adult sequelae. (MCHB, 1988)
- Support longitudinal studies that analyze multiple social factors in community settings over time, allowing the research community to gain insight into the health or deterioration of selected communities and the impact of these changes on youth development. (IOM/NRC, 1996)
- Support longitudinal research that enables researchers to identify and track the precursors of substance abuse, as well as its short- and long-term consequences. (OTA, 1991)

PRIORITY AREA

Integrating Theory into Basic and Applied Research

Recommendations emphasized the importance of theory-based research, including testing current theories, using validated theories to inform adolescent research and intervention projects, and generating new theoretical models to better understand adolescent health and development. Examples of representative recommendations are:

- Test the utility and effectiveness of social skills development, problem-solving and decision-making models in diverse adolescent populations in assisting youth from different cultural and community contexts to develop and maintain health-promoting behavior. (NINR, 1993)
- The importance of using theoretical models to generate specific, testable hypotheses to study biobehavioral development cannot be overemphasized. (MCHB, 1988)
- Youth health promotion programs should utilize and test models that are based on theories of learning, development, behavior and systems. (MCHB, 1988)

PRIORITY AREA

Integrating Diverse Research Perspectives and Approaches

Recommendations called for increased attention to multidisciplinary research, as well as research using methodological approaches that are infrequently employed in studies on adolescent health, such as qualitative and ethnographic research. There was discussion regarding the importance of combining ethnographic, qualitative approaches with traditional quantitative methods to address research questions. Additionally, several recommendations called for research to investigate adolescent health and development from the perspective of the adolescent. Examples of representative recommendations are:

- Together, ethnographic and quantitative studies can provide a richer and more detailed research strategy than that which can be obtained using a single methodological approach. (IOM/NRC, 1996)
- Research priorities should include an interdisciplinary research orientation which recognizes that collaborations across disciplines enrich the repertoire of theory, methods and understanding of adolescence and increase the likelihood that research will have value to broader constituencies. (MCHB, 1996)

PRIORITY AREA

Improving the Evaluation of Interventions

In addition to numerous calls for the evaluation of untested intervention programs currently being implemented, a small cluster of recommendations focused on how methodologies for evaluating prevention and treatment programs could be improved. Recommendations highlighted the need for: research linking the processes and outcomes of interventions; uniform and valid outcome measures for interventions; follow-up to assess the long-term and residual

effects of early interventions throughout adolescence and into adulthood; and the integration of small- and large-scale outcome studies. Evaluation-oriented recommendations were made in a variety of areas, including violence prevention, substance use and sexual behavior. Examples of representative recommendations are:

- Develop psychometrically-sound measures, instruments and data collection procedures to assess the process, outcome and impact of comprehensive prevention strategies. (NIDA, 1994a)
- Studies regarding the "dosage" of interventions need to be conducted: for example, what are the enduring effects of a single phase family intervention (e.g., a series of 10 sessions) compared to a multi-phase intervention (multiple series on a yearly basis)? (NIDA, 1996)
- Emphasize process and formative program evaluation to develop a better understanding of how intervention programs influence change, as well as why some strategies are not effective. (MCHB, 1988)

Section Commentary

Recommendations from many documents emphasized the importance of using more heterogeneous samples of adolescents in both basic and applied research studies in order to produce research results with greater validity and generalizability. In some content areas, recommendations mentioned special populations of adolescents that should be included in research because of the high likelihood that they might be at risk for a particular risk behavior or disorder (for example, targeting children of substance abusers in substance abuse prevention research). In other content areas, recommendations were primarily directed toward sampling adolescents who were demographically diverse in order to gain more general descriptive information about as many subgroups of adolescents as possible.

Calling for theory-driven, longitudinal research seems logical when studying developmental phenomena. However, most of the recommendations for theory-based research emerged in the context of intervention research, rather than developmental research. Furthermore, although recommendations across numerous content areas called for longitudinal research, there was little or no emphasis on developing methods or funding strategies that would allow investigators to conduct such research.

B. Necessary Resources for Conducting Research on Adolescent Health

In order to address crucial research questions, a variety of human and fiscal resources will be necessary. The reports identified five priority areas reflecting needs for: surveillance data; measurement development and validation; support for training investigators in adolescent health; funding for adolescent health research; and the facilitation of collaborative research efforts.

PRIORITY AREA

Expand Surveillance Research

Recommendations urged the systematic collection of surveillance data regarding adolescent health by national, state and local agencies in order to provide databases for researchers to address a variety of questions. Recommendations specifically called for the development of more comprehensive national surveillance data on family income; oversampling of ethnic minority, low-income and other adolescents from special populations; and the inclusion of fertility data in surveillance data regarding substance use. Other areas of need identified for surveillance data included: tobacco, alcohol and other drug use; psychological disorders; accidental injuries (particularly sports injuries); dental health; physical health problems; and emergency medical services. Several recommendations made detailed sug-

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gestions about how surveillance databases should be organized in order to create consistent definitions and categories across states and health systems and to allow data from a single individual or episode to be linked. Additional recommendations suggested the need to prioritize which data should be included in ongoing surveillance versus periodic data collection efforts. Examples of representative recommendations are:

- Improve Vital Statistics data by including marital status, linking birth and death data sets, improving data collection on racial and ethnic sub-groups, adding data useful for outcome assessments, and adding social security numbers to link repeat births with pregnancy outcomes. (NRC, 1987)
- Include data on unmarried women under age 18 in surveys such as the Current Population Survey. (NRC, 1987)

PRIORITY AREA

Measurement Development and Validation

Numerous recommendations were made regarding the development, expansion and refinement of culturally- and developmentally-appropriate measures for adolescents in a wide range of areas, including biological, psychosocial and cognitive development; social skills and competence; mental health; risk behavior; and characteristics of family, peer and community contexts. There was a general call for greater uniformity of measures and for the establishment of more standardized criteria and definitions for assessing aspects of healthy and unhealthy adolescent functioning. Examples of representative recommendations are:

- There is a need to develop appropriate tools for assessing the physical, developmental and cognitive health status of young children and adolescents; in particular, instruments to assess high-risk child populations are needed. (AHCPR, 1997)
- Stimulate the development of new measurement tools and the refinement of existing instruments in areas such as physical health, illness symptomatology, and developmental status. (MCHB, 1988)
- Develop improved methods for assessing the physiological effects of inhalants on human subjects, such as more sensitive neuropsychological batteries that allow researchers to differentiate the effects of inhalants from other drugs. (NIDA, 1994)

PRIORITY AREA

Training Investigators in Adolescent Health

Recommendations called for more intensive support and training of prospective and current adolescent health researchers, in order to develop the knowledge base and skills needed to conduct sound, scientific studies to address the gaps in adolescent health research. Suggestions included the recruitment of ethnically diverse students into child and adolescent health fields; the inclusion of child and adolescent disorders in basic training curricula for students in medical and mental health fields; providing financial support at each stage of career development to entice prospective adolescent researchers; and the establishment of scientific retreats and summer institutes at which prospective students or post-doctoral fellows could interact with leading researchers in the field. Recommendations acknowledged the need for special funding approaches to enable the kinds of training needed in some areas of adolescent health: for example, interdisciplinary research could be facilitated by providing investigators with fellowship and training opportunities to develop new skills and to establish contact with researchers from other disciplines. Examples of representative recommendations are:

- Enrich research training in all the disciplines involved in the study of child and adolescent mental health disorders. (IOM, 1989)

- Make fellowships and training opportunities available so that investigators can gain new skills to conduct interdisciplinary research in biobehavioral areas. (MCHB, 1988)
- Provide support and incentives at each stage of career development, including research support. (IOM, 1989)

PRIORITY AREA

Facilitating Collaborative Research

Recommendations urged collaborative research partnerships and linkages between multiple players such as federal, state and local governments; public and private agencies; private foundations; researchers; and communities. The need for increased collaboration within large federal agencies such as the National Institutes of Health (NIH) was also emphasized. Suggested methods for institutionalizing or otherwise fostering such collaboration included center grants, multi-site studies, interdisciplinary conferences, conferences specifically designed to develop measures to be used across studies, and informal colloquia. To promote national-level collaboration on adolescent health issues, recommendations called for: a national symposium of research and service providers to define and develop a blueprint for a comprehensive national database on youth; a permanent council established by the Executive Branch to provide ongoing advice to federal agencies on research directions in adolescent health; clinical research centers to conduct research on particular disorders or classes of disorders; Centers of Excellence for research on mental disorders of children and adolescents; demonstration projects within states to build on federal initiatives; and the provision of new and increased support for prevention research networks. Several recommendations also emphasized that adolescents themselves should be involved in developing research questions and designing research studies in the area of adolescent health. Examples of recommendations include:

- Develop research centers whose main goal is to bridge basic science, state-of-the-art methodologies and clinical research approaches in order to address pressing research problems in child psychopathology that can not be adequately addressed by less integrated research strategies. (NIMH, 1993d)
- Better links between service providers and researchers within community and youth development efforts need to be established.
- Young people, parents, schools and communities must be integral partners in developing, delivering and evaluating HIV prevention approaches for adolescents. (ONAP, 1996)

Section Commentary

Recommendations concerning measurement development and validation were numerous, emerging from a wide range of content areas and source documents, indicating recognition of the fundamental necessity of good measures for diverse research endeavors, including basic research, intervention evaluation and surveillance. Recommendations in the area of measurement development varied greatly in terms of their immediate feasibility and ambitiousness, with some proposing minor changes in existing instruments and others suggesting the measurement of complex phenomena that have never before been assessed in a systematic manner. Several recommendations noted the necessity of better measures to enable researchers to conduct longitudinal research that tracks adolescent development—both healthy and pathological—over time. Interestingly, although the development and validation of research measures is generally a lengthy and intensive process, there were few calls for funding to be earmarked for instrument development.

Recommendations for funding and collaborative relationships were highly detailed, specifying the kinds of institutions or committees that should be developed, by whom, and the frequency with

which symposia should be held on particular topics of interest. The need for dedicated funding to support training and collaboration in adolescent health research was also noted in several recommendations.

Chapter Commentary

Recommendations clearly recognized the importance of appropriate populations, tools and resources for addressing the important research questions in adolescent health. Recommendations ranged from basic advice regarding the need for adequate sample sizes to more advanced suggestions regarding approaches for studying mediation effects. Not surprisingly, program announcements from Federal agencies, which are targeted to researchers seeking funding, provided the most specific methodological recommendations.

There were unexpectedly few recommendations focused on the kinds of methodological innovations and training (both statistical and conceptual) that would be necessary to enable rigorous investigation of the many ambitious research questions posed by the majority of documents.

A small number of recommendations were concerned with the ethical issues involved in research with adolescent populations. Many of the recommendations considered in this document have ethical implications for the treatment of the adolescents, families and communities in which research is conducted. A few recommendations were explicitly concerned with establishing ethical guidelines for working with adolescent research participants and for conducting research that could potentially impact the lives of adolescents in general. While some ethical mandates apply to research participants of all ages, other ethical issues have special salience for adolescent research, for example, the implications of adolescents' developing the cognitive capacity to provide consent for research participation without parental approval.

Two issues not explicitly raised in the priority area of measure development but perhaps worthy of further consideration are: a) the extent to which adolescents' developmental diversities in a variety of cognitive, biological and psychosocial areas creates challenges for the development of "standardized" research instruments; and b) the dearth of high-quality, validated measures for adolescents. This lack of adolescent-specific measures leads to the study of adolescents using measures originally developed for children or adults and then adapted for adolescent populations.

7 CROSS-CUTTING THEMES IN RECOMMENDATIONS FOR ADOLESCENT HEALTH RESEARCH

In reviewing the overall body of recommendations, a number of cross-cutting themes emerge that transcend specific content areas. An examination of these cross-cutting themes provides an opportunity to suggest critical directions for future research in adolescent health.

Applying a Developmental Perspective to Adolescent Health Research

Recommendations in many content areas touched on the importance of using a developmental perspective in research on adolescent health. Among these were many recommendations that called for research utilizing a life-span perspective. A life-span perspective views adolescence within the context of the developmental process, considering what has preceded it (i.e., neonatal development, infancy and childhood) as well as what will follow (i.e., adulthood). Life-span research thus allows us to understand how earlier development shapes the experience of adolescence, how the experience of adolescence unfolds, and how adolescence itself influences subsequent development and functioning during adulthood. Information from life-span studies has implications for choosing both the optimal time for interventions and the most important areas in which to intervene. A life-span perspective requires longitudinal research that follows children into adolescence, adolescents into adulthood, and that follows adolescents throughout their adolescent years.

The life-span perspective also raises to the forefront issues concerning the role of basic developmental research in adolescent health. If we accept the premise that the study of adolescent health should have, as a fundamental core, an emphasis on adolescent development, then research on basic developmental processes is warranted, regardless of its immediate application value. Many recommendations acknowledge the need to incorporate a developmental perspective; few, however, actually identify the important developmental questions.

Emphasizing "Health" in Adolescent Health Research

Numerous recommendations focused on the need for research on health and healthy development. Recommendations reflected a desire for research on normal adolescent development in both majority and minority populations. This was evident in recommendations as diverse as those calling for research on the effects of pharmacological agents on adolescent biology to research that could differentiate normal from abnormal involvement in risk behaviors. Other recommendations called for research on how to promote healthy behaviors in youth.

Research with a focus on health would be a distinct departure from much of the current problem-focused research on adolescent health. Although problem-oriented research has been productive and illuminating, it has limited our knowledge in areas of great relevance to adolescent health and development, including resilience, decision-making and prosocial behavior. Research on health and healthy development is also relevant to interventions when problems do occur. For example, research on adolescents' developmental needs could help to identify alternatives to health-damaging behaviors that are attractive to adolescents while serving motivational needs. Similarly, research on successful adaptation and coping with adversity could have important implications for intervening with the many adolescents who are raised in less than ideal conditions.

Using Multiple Influence Models for Understanding and Improving Adolescent Health and Development

The use of multiple influence models in adolescent health research was reiterated as an important research approach. This was evident, for example, in recommendations calling for research that uses biopsychosocial models of causal influence. Consideration of the interrelationships among biological, psychological and social development was called for, as was research linking these kinds of developmental influences to behavior and health outcomes. There was also great interest in social and environmental contexts, which represent a broad array of settings, situations and circumstances and are viewed as multiple sources of influence on adolescent health and development. Recognition of the value of the multiple influence approach can also be seen in recommendations urging research on the efficacy of using multiple settings for intervening with adolescents. Such approaches allow for the simultaneous delivery of prevention messages, potentially reinforcing their importance. These interventions may be targeted to different "recipients" such as individuals, groups of individuals, institutions or systems. Health services research recommendations also emphasize the multiple influence theme for evaluating the efficacy of integrated, comprehensive health services.

Recognizing the Diversity of the Adolescent Population

The adolescent population is exceptionally diverse; young people come from a wide variety of racial, ethnic, economic, cultural and language backgrounds. Across all of the research content areas, recommendations urged the increased recognition of this diversity in ways that ranged from the inclusion of special population groups in research designs to the development of interventions that incorporate the needs of different adolescent subgroups.

Recommendations emphasized the importance of using heterogeneous samples of adolescents in both basic and applied research studies in order to produce research results with greater validity and generalizability and to better understand issues of relevance to specific populations. The expansion of research to include groups that differ in their salient sociocultural characteristics would also provide data with which to address cross-cultural and other comparative research questions. There was substantially greater emphasis on expanding representation based on demographic characteristics of adolescents (e.g., gender, race, socioeconomic status, urban vs. rural) than on psychological characteristics and functioning.

There was a clear interest in research comparing subgroups of adolescents who differ in characteristics such as cultural or ethnic group membership, socioeconomic status, and sexual orientation. Recommendations called for investigating the underlying causes of between-group differences in areas such as norms, health behavior, and rates of medical and mental disorders. Social and psychological processes such as marginalization, social influence, stigma and racism were also mentioned as areas that warranted greater study.

Summary

Although other cross-cutting themes emerged from the overall body of recommendations, the four themes described above were most evident. Attention to the issues they raise should be a priority in future research efforts.

8 NEXT STEPS TOWARD IMPLEMENTING A NATIONAL RESEARCH AGENDA FOR ADOLESCENT HEALTH

Implementing a national research agenda for adolescent health will depend, in part, on how well we identify the directions in which research should be moving. How clear is the blueprint? Are the important research questions and methods for answering those questions well articulated? Have we adequately identified barriers to answering these questions, such that we can suggest short- and long-term strategies for action? Given the ever-changing landscape in which science policy is made, do we have a collective vision for how to implement a dynamic research agenda?

Articulating the Content of the Research Agenda

Our review points to a number of ways in which the research blueprint could be improved. For example, there was great variability in the level of specificity evident in recommendations from different sources. Some of this variability can be explained by the different types of documents that were reviewed: for example, program announcements are typically more specific concerning research needs than are reports intended for policy makers. There is value in providing insight into broad, overarching issues of importance, and in this respect less specificity allows for more flexibility in responding to new developments and opportunities. However, for a research agenda to serve as a useful tool for directing national research efforts, requires that the research questions themselves be clearly conceived and articulated.

It is also evident that some areas of obvious research importance are not reflected in the consensus documents we reviewed. For example, the influence of discrimination on adolescents is of obvious interest and yet few recommendations dealt specifically with this issue. This omission may result in part from the criteria we used to select documents for review. As we noted at the beginning of this report, the exclusion of documents that did not focus on adolescents specifically eliminated some important reports that reviewed research with relevance to adolescents: for example, *Prevention of Mental Disorders: A National Research Agenda from the National Institute of Mental Health* (1993). Nevertheless, it is noteworthy that some adolescent-focused consensus documents identified as agenda setters do not include areas of research that are clearly relevant to adolescent health.

In articulating the content of a research agenda for adolescent health, it is important to consider the broad, overarching research questions. Identifying gaps in basic and foundation-building research is also crucial; however, few recommendations focused on advances in the knowledge base that would be necessary to enable investigation of the ambitious research questions posed. For example, many recommendations called for research to examine the relationship between developmental factors, such as cognitive or psychosocial development, and adolescents' engagement in health-risk and health-promoting behaviors. Yet little mention was made of potentially critical impediments to answering these research questions, including: current limitations in our conceptual and empirical understanding of cognitive development beyond formal operations; conceptual difficulties in defining what constitutes a health-promoting versus a health-risk behavior; and a paucity of adequate theoretical models for elucidating the mechanisms through which cognitive development influences behavior. Where such obstacles were mentioned, they typically referred to the need for more sophisticated measurement tools.

Identification of these knowledge-based obsta-

cles is critical for a number of reasons. First, it helps us to develop a temporal timetable for conducting research and prioritizing research activities. Using the example above, adequate measures of cognitive development can not be developed until a conceptual foundation has been established. Second, identifying obstacles allows us to estimate the costs, both fiscal and otherwise, of answering the research questions of interest. Finally, careful consideration of these obstacles may illuminate areas that might otherwise "slip through the cracks." Thus, identifying substantive and methodological impediments can help to improve the quality and specificity of the overall research agenda.

We recommend that a task force be established to articulate the content of the research agenda for adolescent health.

This task force would:

- Identify the broad, overarching issues of highest priority in adolescent health research.
- Articulate critical research questions in each high priority area.
- Identify essential, foundation-building research areas in need of further development;
- provide recommendations for research priorities.
- Develop a long-range plan that would incorporate both short-term goals and longer-term development.

How might such a task force operate? Identifying the highest priority research areas could be facilitated using available analyses that offer insight into broad-based, consensus reflecting trends. For each high priority research area, work groups could be established that would identify the critical research questions. Such efforts would hopefully go beyond the conclusions reached in consensus documents and rely heavily on expertise from relevant scientific communities. Input from the latter group would help to assure the identification of methodological and substantive research areas that are essential for addressing the critical research questions, as well as the delineation of testable research questions. In producing recommendations for research priorities, short- and long-term timelines should be considered. A sound research agenda requires a balance between addressing immediate needs that have earlier rewards and investing in foundation-building research involving longer trajectories.

While a number of previous activities have occurred that would provide essential information to such a task force, efforts of the scope we are suggesting for adolescent health have not been undertaken in a systematic way. As an example of what it takes to create a thoughtful and well-articulated research agenda, we can look to the effort of the Secretary's Task Force on Youth Suicide (U.S. Department of Health and Human Services, 1989). The Task Force commissioned over fifty papers from experts when developing their recommendations—this in a topical area with a scope far narrower than adolescent health. They subsequently held national conferences with interdisciplinary representation to discuss the papers and recommendations and finally, issued reports for use by subsequent task forces. Articulating the content of the research agenda in adolescent health is likely to require a similar, and perhaps greater, effort.

Strategic Thinking and Planning

Implementing a national research agenda for adolescent health will require more than a prioritized list of critical research questions. Strategic thinking and planning are crucial elements to developing an action plan that will facilitate implementation of the research agenda. Elements of this process should include careful identification of existing barriers, development of strategies to reduce the impact of these barriers, and recognition of impending events that provide opportunities for action.

Many of the recommendations implicitly or explicitly identified current barriers to conducting

necessary research on adolescent health. In addition to the existing limitations in methodological and measurement areas (many of which are discussed in Chapter 7), these recommendations also recognized that important research questions in adolescent health can only be addressed given appropriate human and fiscal resources.

Human Resources

Although there have been studies assessing the need for human resources to deliver clinical services to adolescents, less attention has been paid to human resource needs in the area of adolescent health research. Answering the important questions in adolescent health will require expertise from general fields as varied as anthropology, biology, education, law, medicine, nursing, psychology, public health, social work, and sociology. Input from specialized areas such as adolescent medicine, developmental psychology, endocrinology, ethics, genetics, health psychology, juvenile justice, nutrition, pediatrics and psychiatry will also be essential.

Given the multidisciplinary nature of adolescent health, training is particularly crucial in cross-cutting areas such as prevention science that transcend traditional academic boundaries. Attracting the best thinkers to these less traditional fields will require concerted efforts directed toward undergraduate/graduate level training, as well as efforts to increase the prestige of such fields in academic settings.

It may also be important to target particular disciplines for enhanced training initiatives. For example, recommendations regarding research design—such as those urging the use of statistical analyses and sufficient sample sizes—suggest that the current level of statistical and methodological sophistication in the field is low or inconsistent. Such expertise is crucial and could be enhanced by offering training opportunities to individuals interested in conducting adolescent health research, particularly those from disciplines with strong methodological traditions.

To address these issues, we recommend that a task force on training needs for adolescent health research be established.

This task force would:

- Identify the highest priority areas for training in adolescent health research.
- Assess current training activities and gaps in training opportunities.
- Identify impediments to developing and/or implementing enhanced training initiatives.
- Make recommendations for action in this area.

Prioritizing training needs in adolescent health research should take into consideration the content of the research agenda for adolescent health. Training needs related to high priority research areas should also be considered high priority. It would therefore seem sensible to explore training needs after the content of the research agenda is determined.

Fiscal Resources

Moving the adolescent health research agenda forward will also require fiscal resources. Currently, children and adolescents receive less than 3% of research funds allocated nationally; thus, many areas of child and adolescent research receive inadequate levels of funding. Continued or increased funding was explicitly suggested in many recommendations spanning a wide range of content areas reflecting basic behavioral, social and biological sciences; preventive interventions; and treatment and evaluation research. Recommendations were also made for changes in funding policies, such as providing long-term grants to fund longitudinal research or instituting requirements that rigorous methodological criteria be met for demonstration projects in areas that receive high levels of funding. Beyond this, there is a need for sufficient funding to move forward in building a strong research infrastructure to support long-term investment in basic "foundation-building" research, methodological research with important application value, and research

directed toward the development of high quality measurement tools for assessing a range of fundamental developmental and health-related constructs. Given the focus of our review, few recommendations specifically addressed the means by which such funding for adolescent health could be increased. Such recommendations will be important as the next steps toward implementation of the research agenda take place.

To address these issues, we recommend the establishment of a task force on funding for adolescent health research.

Using the content of the research agenda as a guide, this task force would:

- Examine current levels of support for adolescent health research.
- Determine levels of funding necessary to achieve research goals.
- Identify the high priority research areas that are the most under-funded.
- Explore alternatives for increasing funding of adolescent health research.

Implementing Action Plans

The efforts described above represent important steps, but are not sufficient for moving a research agenda forward. Actual implementation calls for the support of crucial stakeholders and decision-makers early and throughout the process of agenda-setting and implementation. Casting a wide net is particularly important given the variety of interests and institutions that could influence or be influenced by the research agenda.

Implementation of the research agenda will also require that linkages between research and practice be strengthened. Individuals and institutions involved in education, clinical practice, program development, community building and media will be more invested in and better served by research when it addresses the questions of greatest relevance to them and their respective constituencies.

The practice community can educate the research community about the questions of greatest relevance to practitioners, thereby enhancing the value of research as a tool to answer relevant questions. Translating the results of this research for the practice community further assists the research community in its dissemination and diffusion efforts. The development of community-based research networks will also be essential for conducting research to answer many of the most pressing research questions. Establishing formal mechanisms to link these diverse communities will be especially important in cases where spontaneous connections are unlikely to occur.

Establishing a bridge between research and policy is also essential. Policies regulating research are numerous and far-reaching, ranging from rules concerning adolescents' rights to participate in research studies to funding decisions that limit the kinds of research that can be conducted. Recognition of policies that impede scientific progress in high priority areas may warrant efforts to change those policies. Educating policy-makers about the value of adolescent health research and enlisting their support for the research agenda should remain a stable component of any realistic implementation plan. Communicating the research agenda to policy-makers will require the efforts of individuals and groups who are able, through established channels, to reach those policy-makers and who are willing to advocate strongly for adolescent health research.

While it is possible to describe general strategies for implementing a national research agenda, actual strategic planning and implementation are dynamic processes. In order to succeed, a research agenda and action plan must be responsive to changes that take place both inside and outside the research world. Research findings may point to new directions for inquiry and suggest changes in research priorities. Outside of the research world, an enormous variety of events could prompt changes in direction; these could include events as dis-

parate as changes in the nature of graduate education, the development of new technologies, or the occurrence of political events that open or close acceptable research arenas.

Finally, a research agenda and plan for action, no matter how well developed, should not be considered complete unless they include plans for evaluating progress in moving the research agenda forward. Periodic assessments may lead to changes in priority-setting; they can also provide welcome reassurance. Without a means for assessing progress, we have no way of knowing which of our efforts have been successful, which have been failures, or why. Examining earlier efforts to establish a research agenda for adolescent health could also be an important first step in helping to identify appropriate action plans for the future and to stimulate thoughts about how to establish mechanisms for future evaluation efforts.

The Value of Perspective

In undertaking this synthesis of broad-based trends in research priorities, it was our intent to identify gaps in the existing knowledge base; highlight essential measurement, methodological and resource needs; and suggest approaches for moving the research agenda forward. To the extent we have accomplished this, some readers may feel disheartened; clearly, much remains to be done. However, our assessment of the current state of adolescent health research does not tell the whole story and should be viewed in historical context.

Research on adolescence has a relatively short history. Zaslow and Takanishi (1993) noted that less than twenty years ago, the editor of a handbook on adolescent psychology found it difficult to fill the space allotted for the book, and commented on the lack of theory and empirical work available to authors. Research activity proliferated during the late 1970s and beyond, but it was not until 1988 that the Annual Review of Psychology published its first article devoted to adolescence. (Petersen, 1988) Given this short time frame, it is hardly surprising that some of the most fundamental questions about adolescence remain to be answered.

On the other hand, it is astonishing to examine what has occurred in the last few decades. There has been a relative explosion of scholarly work on adolescents, as evidenced by the number of journals devoted specifically to adolescents, including *Adolescence*, *Journal of Adolescence*, *Journal of Early Adolescence*, *Journal of Research on Adolescence*, *Journal of Adolescent Research*, *Journal of Adolescent Health*, and *Journal of Youth and Adolescence*. It is no longer difficult to fill a large textbook with summaries of empirical research on adolescence; indeed, many such volumes have been published, especially over the last decade. In 1968, the Society for Adolescent Medicine was formed and in 1986, the Society for Research on Adolescence was founded as a multidisciplinary research society. Fueled in part by the availability of an empirical research base, numerous commissions and task forces focusing on adolescent issues have been established by government agencies (such as the Congressional Office of Technology Assessment); quasi-governmental agencies (such as the Institute of Medicine and the National Research Council); philanthropic organizations (such as the Carnegie Corporation of New York and the William T. Grant Foundation); professional organizations (such as the American Medical Association and the American Psychological Association); and advocacy groups (such as the Children's Defense Fund). And, in 1992, the United States Congress established the Office of Adolescent Health within the Maternal and Child Health Bureau, Health Resources and Services Administration.

All these signs point toward a field that is growing, despite enduring fiscal challenges, and to efforts that are clearly worth continuing and expanding. We have taken the first steps. Now the time has come to take the crucial next steps that will allow us to answer the most pressing research questions and to ensure the healthy development of youth in this and subsequent generations.

APPENDIX A

LIST OF REVIEWED DOCUMENTS

APPENDIX A:

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Year	Organization	Report or Program Announcement	Report Abbreviation
1986	US Congress, Office of Technology Assessment	Children's Mental Health: Problems and Services	OTA, 1986
1987	National Research Council	Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing	NRC, 1987
1988	Maternal and Child Health Bureau	Health Futures of Youth	MCHB, 1988
1988	WT Grant Foundation	Forgotten Half: Pathways to Success for America's Youth and Young Families	WTG, 1988
1989	Alcohol, Drug Abuse, and Mental Health Administration	Report of the Secretary's Task Force on Youth Suicide	ADAMHA, 1989
1989	Institute of Medicine	Research on Children and Adolescents with Mental, Behavioral, and Developmental Disorders	IOM, 1989
1990	National Association of School Boards	Code Blue: Uniting for Healthier Youth	NASB, 1990
1991	National Cancer Institute	Reduction of Cancer Risk Behaviors in High-Risk Youth	NCI, 1991
1991	National Institute on Drug Abuse	Drug Abuse Prevention Research Centers	NIDA, 1991
1991	National Institute of Mental Health	Centers for Research on Mental Health Services for Children and Adolescents	NIMH, 1991a
1991	National Institute of Mental Health	Child and Adolescent Health Service System Research Demonstration Projects	NIMH, 1991b
1991	National Institute of Mental Health	Implementation of the National Plan for Research on Child and Adolescent Mental Disorders. (PA-91-46)	NIMH, 1991c

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Year	Organization	Report or Program Announcement	Report Abbreviation
1991	US Congress, Office of Technology Assessment	Adolescent Health Vol 1-3: (Vol 1: Summary and Policy Options; Vol 2: Background and the Effectiveness of Selected Prevention and Treatment Services; Vol 3: Crosscutting Issues in the Delivery of Health and Related Services)	OTA, 1991
1992	National Commission on Children	Beyond Rhetoric: A New American Agenda for Children and Families	NCC, 1992
1992	National Institute on Alcohol Abuse and Alcoholism	Research on Children of Alcoholics (PA-92-74)	NIAAA, 1992a
1992	National Institute on Alcohol Abuse and Alcoholism	Research on Economic and Socioeconomic Aspects of Alcohol Abuse (PA-92-101)	NIAAA, 1992b
1992	National Institute on Alcohol Abuse and Alcoholism	Research on the Prevention of Alcohol Abuse Among Youth (PA-92-46)	NIAAA, 1992c
1992	National Institute of Arthritis and Musculoskeletal and Skin Diseases	Research Surveillance and Related Studies of Sports Injury in Youth (PA-92-102)	NIAMSD, 1992
1992	National Institute of Child Health and Human Development	Research on Fertility and Fertility-Related Behavior (PA-92-49)	NICHD, 1992
1992	National Institute on Drug Abuse	Clinical Research on Human Development and Drug Abuse (PA-92-58)	NIDA, 1992
1993	Institute of Medicine	Emergency Medical Services for Children: A Summary	IOM, 1993
1993	National Institute on Drug Abuse	Drug Use and Abuse in Minority and Underserved Populations	NIDA, 1993

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Year	Organization	Report or Program Announcement	Report Abbreviation
1993	National Institute of Mental Health	American Indian, Alaska Native and Native Hawaiian mental health research (PA-93-53)	NIMH, 1993a
1993	National Institute of Mental Health	Child and Adolescent Development and Psychopathology Research Centers	NIMH, 1993b
1993	National Institute of Mental Health	The Prevention of Mental Disorders: A National Research Agenda	NIMH, 1993c
1993	National Institute of Mental Health	Research on Emergency Mental Health Services for Children and Adolescents	NIMH, 1993d
1993	National Institute of Nursing Research	Health Promotion for Older Children and Adolescents	NINR, 1993
1993	National Institutes of Health	Summary of Research Targeting the Needs of Adolescents	NIH, 1993
1993	National Research Council	Losing Generations: Adolescents in High-Risk Settings	NRC, 1993a
1993	National Research Council	Preventing Drug Abuse: What Do We Know?	NRC, 1993b
1993	National Research Council	Understanding Child Abuse and Neglect	NRC, 1993c
1993	US Public Health Service	Healthy People 2000: National Health Promotion and Disease Prevention, Progress on Adolescent/Young Adults	HP2000, 1993
1994	Carnegie Task Force on Meeting the Needs of Young Children	Starting Points: Meeting the Needs of Our Youngest Children	Carnegie, 1994
1994	Department of Education and Department of Health and Human Services	School-Based Health Services: Issues to be Addressed by the Health Security Act and other Federal Legislation	DOE/DHHS, 1994

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Year	Organization	Report or Program Announcement	Report Abbreviation
1994	Institute of Medicine	Growing Up Tobacco-Free: Preventing Nicotine Addiction in Children and Youth	IOM, 1994
1994	National Cancer Institute	Educational Intervention Research on Cancer Risk Reduction for High-Risk Youth (PA-94-027)	NCI, 1994
1994	National Heart, Lung, and Blood Institute and National Institute of Diabetes and Digestive and Kidney Diseases	Physical Activity and Cardiopulmonary Health (PA-95-004)	NHLBI, 1994
1994	National Institute on Drug Abuse	Comprehensive Prevention Research in Drug Abuse (PA-94-056)	NIDA, 1994a
1994	National Institute on Drug Abuse	Inhalant Abuse Research	NIDA, 1994b
1994	National Institute on Drug Abuse	School-Based Prevention Intervention Research (PA-94-061)	NIDA, 1994c
1995	Carnegie Council on Adolescent Development	Great Transitions: Preparing Adolescents for a New Century	Carnegie, 1995
1995	Institute of Medicine	Report Card on the National Plan for Research on Child and Adolescent Mental Disorders	IOM, 1995a
1995	Institute of Medicine	The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families	IOM, 1995b
1995	National Institute on Alcohol Abuse and Alcoholism	Mechanisms of Adolescent Alcohol Abuse and Alcoholism (PA-95-073)	NIAAA, 1995
1995	Society for Adolescent Medicine	Special Issue of the Journal of Adolescent Medicine	SAM, 1995

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Year	Organization	Report or Program Announcement	Report Abbreviation
1996	Centers for Disease Control and Prevention	Violence Prevention Programs (Longitudinal Evaluations). Notice of Availability of Funds for Fiscal Year 1996 (PA-634)	CDC, 1996
1996	Institute of Medicine and National Research Council	Youth Development and Neighborhood Influences: Challenges and Opportunities. Summary of a Workshop	IOM/NRC, 1996
1996	Maternal and Child Health Bureau	Proceedings of the Fourth National Title V Maternal and Child Health Research Priorities Conference	MCHB, 1996
1996	National Institute on Drug Abuse	Drug Abuse Prevention Through Family Intervention (PA-96-013)	NIDA, 1996
1996	Office of National AIDS Policy	Youth and HIV/AIDS: An American Agenda	ONAP, 1996
1997	Agency for Health Care Policy and Research	Child Health Services: Building a Research Agenda	AHCPR, 1997
1997	Institute of Medicine	Schools and Health	IOM, 1997
1999	National Adolescent Health Information Center	Targeting the Neediest? An Analysis of Health Policy Development Related to Adolescent Special Populations	NAHIC, 1999

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SUMMARY OF RESEARCH RECOMMENDATIONS BY REPORT

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SUMMARY OF RESEARCH RECOMMENDATIONS

(AHCPR, 1997)

Agency for Health Care Policy and Research:
Child Health Services: Building a Research Agenda

An entire range of studies is necessary to evaluate the outcomes and relative effectiveness of alternative treatments for common, high-cost pediatric conditions such as asthma and attention deficit disorder.

Federal and State agencies need to collaborate on the development of a plan for evaluating the impact of Medicaid managed care programs on the health status of children and adolescents.

Research on methods for improving the organization of care for children, especially those who are poor, is vital.

Research should assess the effect of organizational changes (of managed care) on children and adolescents as distinct populations, as well as the impact of financial incentives on the scope and level of preventive, acute, chronic, and medical services.

Standards of care for children with special health needs or chronic conditions are particularly lacking and need to be developed.

Studies are needed on the effect of changes in insurance coverage on cost, quality, and access to care for children.

The definition of which services are "medically necessary" and, therefore, covered by insurers, is an increasingly contentious issue that requires clarification.

There is a need for improved measures of quality and access to health care, including better identification of the essential elements of care for children with particular conditions, range of services required, standards of care, and expected outcomes.

There is a need for well-designed, longitudinal studies of the costs and benefits of preventive health care services for children.

There is a need to train health policy researchers who specialize in child and adolescent health.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(ADAMHA, 1989)

Alcohol, Drug Abuse, and Mental Health Administration:
Report of the Secretary's Task Force on Youth Suicide. Vol. 1: Overview and Recommendations

Conduct multidisciplinary research to determine and evaluate the risk factors for suicide.

Conduct research into interventions focused on preventing antecedent risk factors or conditions associated with suicide among youth such as depression, substance abuse, antisocial behavior, and delinquency.

Conduct research on suicide clusters and the mechanisms of imitation and contagion in suicide.

Conduct special investigations of suicide and attempted suicide that appear to be clustered, epidemic, or have unusual patterns of occurrence.

Design and evaluate a variety of public information approaches to convey helpful information about a broad range of potentially harmful or self destructive behaviors (such as drug abuse and interpersonal violence) without emphasizing suicide.

Develop accurate, timely, and valid data on suicide and attempted suicide.

Develop community-based surveillance systems for suicide attempts, based on consistent operational definitions of suicide attempts and suicidal behaviors.

Develop guidelines and provide incentives for evaluating and caring for suicidal patients in non-psychiatric hospitals and other general medical settings.

Develop programs specifically aimed at youth with multiple risk factors who fall outside the range of traditional programs. The programs most likely to be effective are those focused specifically on youths at highest risk.

Develop special programs to reach gatekeepers to the health care system (such as teachers, parents, clergy, and counselors) and improve their ability to recognize clues to suicide.

Educate business and industry regarding suicide prevention awareness. Businesses should provide and encourage the use of employee assistance counseling programs (including mental health assistance) for employees and their families when a family member is at increased risk of suicide.

Educate religious counselors about indicators of suicidal risk, prevention techniques, and ways to facilitate young people's access to mental health, social and medical services when they are needed.

Encourage a range of primary prevention programs, based on the head start model, directed at disadvantaged youth. Evaluate the effect of such programs on self-destructive behaviors, including youth suicide.

SUMMARY OF RESEARCH RECOMMENDATIONS

(ADAMHA, 1989 CONT.)

Alcohol, Drug Abuse, and Mental Health Administration:
Report of the Secretary's Task Force on Youth Suicide. Vol. 1: Overview and Recommendations

Encourage foundations and corporations to increase their support of youth suicide prevention programs.

Encourage states to coordinate public and private sector activities in developing comprehensive, preventive approaches for families with youth at high risk for suicide, substance abuse, and interpersonal violence. Encourage use of social services by families and youth at high risk for suicide.

Encourage the development of organizations and programs that integrate youth who have multiple risk factors into a social network.

Evaluate the effectiveness and cost of interventions to prevent suicide.

Evaluate the effectiveness of interventions focused on specific populations, including: programs to educate and train gatekeepers, methods of early identification and treatment of potentially suicidal young people, specific treatment modalities for actual suicide attempters, methods to improve recognition and treatment of depression by health and mental health professionals, and programs for survivors.

Evaluate the effectiveness of interventions to prevent youth suicide that are directed at the general population, including suicide prevention centers and school-based programs.

Explore and evaluate ways of limiting the access of youth at high risk of suicide to lethal means of suicide, especially firearms (which account for the preponderance of deaths by suicide).

Explore ways that are legal and legislatively feasible to limit the access of youth at high risk of suicide to the lethal means of suicide and study the effectiveness of these interventions.

Explore ways to decrease the financial and legal barriers that limit the access of suicidal youth to appropriate care.

Improve the quality of suicide data by promoting uniform criteria for the determination of suicide and a uniform approach to suicide surveillance.

Include information on suicide risk assessment and referral in the professional training and continuing education of school system personnel.

Increase the number of mental health professionals specializing in the psychological assessment and treatment of children and youth.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(ADAMHA, 1989 CONT.)

Alcohol, Drug Abuse, and Mental Health Administration:
Report of the Secretary's Task Force on Youth Suicide. Vol. 1: Overview and Recommendations

Inform and educate the public and health service providers about current knowledge in the prevention, diagnosis, and treatment of suicide among youth.

Integrate suicide prevention into programs that address a wide range of self-destructive or problem behaviors such as substance abuse, interpersonal violence, and unwanted teenage pregnancies.

Involve both public and private sectors in the prevention of youth suicide.

Offer adequate malpractice insurance to mental health professionals to keep concerns about liability from inhibiting the provision of services to suicidal youth.

Prepare guidelines for obtaining standardized clinical histories from suicide attempters and from patients who belong to certain high risk groups.

Provide for dissemination of information on youth suicide and suicide attempts.

Provide information and technical assistance for communities in which youth suicides have occurred. These services should be provided through state and local public and mental health agencies.

Provide information, consultation, and liaison among health services, social service programs, and juvenile/criminal justice personnel targeted at high-risk youth and families.

Refine our current knowledge about risk factors by investigating potential risk factors suggested by surveillance data and by biological and behavioral studies.

Support and evaluate demonstration programs for suicide prevention in emergency wards, health maintenance organizations, and adolescent health care facilities. Coordinate health service demonstration programs with schools, social service agencies, and religious organizations.

Support efforts to define the harmful and beneficial effects of media coverage on suicide attempts. Pay particular attention to the way media portray suicidal behavior and contribute to imitative events, and to ways the media might prevent suicide.

Support the delivery of suicide prevention services.

Survey and assess existing mental health services in jails, prisons, and correctional institutions for their ability to identify and adequately treat suicidal individuals.

Survey and evaluate existing programs that strengthen families. Explore and evaluate innovative interventions that strengthen the ability of families. Explore and evaluate innovative interventions that strengthen the ability of families to support youth through life crises.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(CARNEGIE, 1994)

Carnegie Task Force on Meeting the Needs of Young Children:
Starting Points: Meeting the Needs of Our Youngest Children

Study innovative ways of making new forms of contraception more readily available (must be part of a national commitment to making family planning services widely available to adolescents).

(CARNEGIE, 1995)

Carnegie Council on Adolescent Development:
Great Transitions: Preparing Adolescents for a New Century

Even less well understood is the cyberspace experience that a growing number of adolescents are exposed to through the use of personal computers at home or at school.

Less is known about the impact of different forms of music and their lyrics, although speculation about their harmful effects is widespread.

There is an ongoing need to clarify gaps in knowledge, priorities, and scientific opportunities for research—both on fundamental aspects of adolescent development and on the utility of various interventions intended to prevent damage.

Universities could link independent experts with policy makers in government, with business leaders, with responsible media.

Universities could publish periodic syntheses of knowledge—not only for technical-professional audiences but also for a broader educated public.

Universities could vigorously stimulate interdisciplinary research and education on (child and adolescent development) topics.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(CDC, 1995)

Centers for Disease Control and Prevention:
Program Announcement 634: Violence Prevention Programs

Assess the residual effects of previously evaluated violence prevention interventions that initially exhibited significant effects in reducing violent behavior, violence-related injuries, or intermediate indicators (e.g., aggressiveness).

Examine the residual effects of violence prevention interventions, especially the effects of continued long-term interventions. Compare the outcomes of cases in which there were efforts to reinforce initial gains with cases in which there was no significant intervention.

Support extended assessments of the impact of previously implemented and evaluated violence prevention programs that targeted youth below the age of 19 years which demonstrated promising outcomes.

(DOE/DHHS, 1994)

Department of Education and Department of Health and Human Services:
School-Based Health Services

Create a comprehensive system to monitor the quality and cost effectiveness of program performance.

Mandate the formation of state and local-level School Health Resource Partnerships to assure that major stakeholders in communities (including all parties involved in caring for school-age children); agree on what should be done at the school site for children, who should do it, and who should pay for it.

The federal government in cooperation with the states should analyze how various states are providing and financing special education and other health services for children with disabilities.

The federal government in cooperation with the states should commission or conduct analyses in order to assure that existing school health mandates and programs are necessary and effective, and to provide a basis for developing less expensive, more logical ways to deliver services.

The federal government in cooperation with the states should make immediate recommendations regarding provider qualifications and services delivery options to inform Congress as it considers reauthorization of IDEA.

The federal government in cooperation with the states should review school health mandates across the country, assess their cost-effectiveness, and make recommendations concerning which mandates might be dropped or shifted to another level of responsibility in the community.

We propose research and analysis to give us the information we need to create more effective health care systems for school-age children and youth over time.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1989)

Institute of Medicine:
Research on Children and Adolescents with Mental, Behavioral, and Developmental Disorders

Children in residential settings with multiple problems should be included in research to assess how treatments work in the actual settings where they are used.

Conduct epidemiological research on the prevalence of mental disorders to provide a basis for estimating mental health service needs of populations, and to examine problems associated with access and utilization.

Conduct informal research colloquia to review scientific progress on several areas: epidemiology, treatment research, prevention research, basic biopsychosocial research.

Conduct large-scale studies of treatments that are multi-site and collaborative.

Conduct medication trials that evaluate different types of outcome, sustained effectiveness, and emergent side effects.

Conduct prevention research on children in high risk groups, including those who have been subjected to abuse and neglect; children of parents with psychopathology; and children at a severe social disadvantage.

Conduct research on the development of valid and reliable assessment instruments that measure key areas of competence and disability, including cognitive processing, intelligence, and problem solving ability; communicative and social skills, capacity for resilience, adaptive function, social and environmental factors, family interactional factors, and community resources and their utilization.

Conduct small scale studies of the outcomes of treatments with different well-defined groups.

Create clinical research centers to do research in particular disorders or classes of disorders, longitudinal research on mechanisms that underlie specific risk and protective factors, or for catastrophic outcomes like suicide and homicide.

Develop biopsychosocial conceptual frameworks for mental disorders affecting adolescents (i.e., conceptualize the interplay between a biological vulnerability to a mental disorder and specific psychological and social circumstances).

Develop or improve measures of cognitive processing, intelligence, problem-solving ability, and communicative and social skills, and family interactional factors.

Develop or improve measures of community resources and their extent of utilization.

Develop safe and reproducible approaches to treatment for children and adolescents.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1989 CONT.)

Institute of Medicine:
Research on Children and Adolescents with Mental, Behavioral, and Developmental Disorders

Encourage support for students to apply to M.D.-Ph.D. tracks in the first year of medical school, with an emphasis on child mental health.

Encourage the creation of Centers of Excellence for research on mental disorders of children and adolescents.

Establish institute-wide consortia concerned with child and adolescent mental health research to implement the proposed national plan (*for the NIMH).

Establish research centers in the epidemiology of child and adolescent mental health to advance knowledge from a public health perspective.

Establish scientific retreats or summer institutes in which prospective students or post-doctoral fellows would be able to interact with leading research associates in the field and learn about exciting research opportunities and funding of long-term research opportunities for individuals in professional training.

Establish structures to support interdisciplinary research: sponsor regular meetings that take a broad interdisciplinary view on mental disorders of children and adolescents.

Evaluate alternative family systems, foster care, short-term transitional families, and other variations.

Increase existing scientist awards, so that salaries for investigators are no less that 80% of customary salaries for beginning and mid-career-level faculty.

Increase funding for research training programs in core disciplines (related to mental health).

Increase funding for studies of disorders and dysfunction. This includes support for innovative studies of risk and protective factors as they relate to specific disorders.

Increase long-term support for investigators carrying out long-term studies of treatment.

Increase long-term support for treatment development and evaluation.

Increase support for direct tests of treatment, including: small scale outcome studies; clinical drug trials; evaluation of combined treatments; matching of treatments to clinical problems; studies of treatments used in clinical practice; and the extension of effective techniques to practice.

Make new research technologies available.

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1989 CONT.)

Institute of Medicine:
Research on Children and Adolescents with Mental, Behavioral, and Developmental Disorders

Need broad methodological studies of some of the most vexing problems of classification, case definition, integration of data from multiple informants, and assessment of young children.

Need intensive exploration of group, school, and community-based treatment interventions for children and adolescents in need of services.

Need methods of tracking the severity and course of each disorder over time and across developmental epochs.

Need prospective longitudinal studies of children to follow the course of dysfunction over time, to assess the long-term course of childhood disorders and the possibility of co-morbidity of disorders.

Need research in development of valid and reliable assessment instruments for use in epidemiological or clinical studies.

(IOM, 1993)

Institute of Medicine:
Emergency Medical Services for Children: A Summary

Congress should appropriate $30 million each year for five years—a total of $150 million over the period—to support activities of the federal center and the state agencies related to emergency medical services for children.

Congress should direct the Secretary of the Department of Health and Human Services to establish a federal center or office to conduct, oversee, and coordinate activities related to planning and evaluation, research, and technical assistance in emergency medical services for children. Congress should direct the Secretary to establish a national advisory council for this center; members should include representatives of relevant federal agencies, state and local governments, the health care community, and the public at large.

Research in emergency medical services for children should be expanded and priority attention be given to seven areas: clinical aspects of emergencies and emergency care; indices of severity of injury and, especially, severity of illness; patient outcomes and outcome measures; costs; system organization, configuration, and operation; effective approaches to education and training, including retraining and skill retention; and prevention.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1993)

Institute of Medicine:
Emergency Medical Services for Children: A Summary

States should establish a lead agency to identify specific needs in emergency medical services for children and to address the mechanisms appropriate to meeting those needs. State advisory councils should be established for these agencies; members should include representatives of relevant state and local agencies, the health care community, and the public at large.

States should implement a program to collect, analyze, and report data on emergency medical services; those data should include all of the elements of a national uniform data set and describe the nature of emergency medical services provided to children. States and other relevant bodies should adopt requirements that ICD-9-CME-codes be reported for all injury diagnoses for hospital and emergency department discharges. Mechanisms should be developed to link all data on a specific case, where those data are generated by separate components of the emergency medical services provided to children.

The federal center responsible for emergency medical services for children should develop guidelines for a national uniform data set on emergency medical services for children.

(IOM, 1994)

Institute of Medicine:
Growing up Tobacco Free: Preventing Nicotine Addiction in Children and Youth

Federal agencies should give special attention to research on the efficacy of policies aiming to prevent initiation of tobacco use by youths.

Federal agencies that sponsor tobacco-related research should increase the resources devoted to understanding and preventing initiation of tobacco use by children and youths.

For all forms of tobacco products, research should be conducted on the characteristics of nicotine addiction in the early stages; that is, in the first few years during which the transition between experimental and additive nicotine use occurs.

Research should be conducted on the development and evaluation of programs to help children and youths who are regular tobacco users to quit their habitual use of cigarettes, snuff, or chew.

Research should be conducted on the relationship between the characteristics of tobacco products and addiction.

Research should be conducted that attends to ethnic, gender, and social class differences; that is sensitive to youths' responses to advertising and promotional messages; and that assesses the success as well as the failure of advertising campaigns.

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1994)

Institute of Medicine:
Growing up Tobacco Free: Preventing Nicotine Addiction in Children and Youth

Research should be conducted to determine individual susceptibility to nicotine addiction.

Research should be conducted to determine the factors influencing the substantial decline in tobacco use by African-American youths, with particular attention to the role of social norms.

Research should be conducted to identify the need for, and to develop and evaluate prevention programs aimed at reducing tobacco use among specific ethnic groups.

Social science research should be conducted to enhance understanding of how norms are formed and transmitted, and of the regional and cultural differences in the acceptability of tobacco use.

Sponsors of tobacco prevention research should support a surveillance system for monitoring the tobacco market in order to ascertain the sources (and cost) of tobacco products to youths, in both legal and illicit commerce.

Sponsors of tobacco prevention research should support studies of retailers regarding their motivation for compliance or noncompliance.

Sponsors of tobacco prevention research should support studies of the cost-effectiveness of various enforcement approaches being developed in response to the Synar Amendment.

Systematic research should be conducted on the optimal way to disseminate and implement tobacco use prevention programs on a large scale.

Youths should be involved in the development of research questions and approaches, and in the design and evaluatiion of health messages and programs.

(IOM, 1995A)

Institute of Medicine:
Report Card on the National Plan for Research on Child and Adolescent Mental Disorders

Given the long-term impact of child and adolescent mental disorders, it is essential for NIH and other funding agencies in the public and private sectors to identify this as a priority area in need of greater funding.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1995B)

Institute of Medicine:
The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families

Develop and scrupulously evaluate a variety of local programs to reduce unintended pregnancy.

Evaluations of the long-term effects of programs (Title X and Medicaid) are sorely needed, but they will be difficult to design.

Few studies have examined men's knowledge, attitudes, and perceptions about contraception and pregnancy; and fewer studies have examined gender differences on these issues.

How is access to contraception enhanced or restricted by various managed care arrangements in health care? In which instances is it best to offer contraceptive care as a separate, specialized service and in which cases is it preferable to combine such care with other health services (such as STD services)?

Little is known from the evaluated programs about how to influence sexual behavior or contraceptive use by changing the surrounding socioeconomic or cultural environment.

More research is needed to understand fully why more than half of all pregnancies in the U.S. are unintended at the time of conception and, in particular, why it is that half of these pregnancies occur among women who did not desire to become pregnant, but were nonetheless using no method of contraception when they conceived.

Research in these areas will be enhanced by more refined and differentiated tools to measure the intention status of a given pregnancy. The new questions being used in the 1995 NSFG to probe intendedness represent an important step forward.

Research on the determinants of contraceptive behavior has yet to integrate this new dynamic (STD prevention vs. pregnancy prevention) into existing theories used to explain varying patterns of contraceptive use or method selection.

Stimulate research to answer important questions about how best to organize contraceptive services.

Stimulate research to develop new contraceptive methods for both women and men.

Stimulate research to understand more fully the determinants and antecedents of unintended pregnancy.

The campaign to reduce unintended pregnancy should encourage public and private funders to support a series of new research and demonstration programs at the community level that are designed to answer a series of clearly articulated questions, evaluated very carefully, and replicated when promising results emerge.

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1995B CONT.)

Institute of Medicine:
The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families

The committee recommends that an independent, public-private consortium be formed at the national level to lead the campaign to reduce unintended pregnancy.

There is a need to develop and test out new ways to involve men more deeply in the issue of pregnancy prevention and contraception.

There is insufficient collaboration across disciplines in research on the determinants and antecedents of unintended pregnancy. Greater interdisciplinary collaborations will be needed to blend these many perspectives into useful predictive models.

There is the need for better research and analysis on the effectiveness of publicly-supported programs that help to finance contraceptive services, and the need for new research and demonstration programs at the community level to learn more about how to reduce unintended pregnancy.

Research needs to consider more than physical factors in neighborhood settings. The types and levels of social interactions within a community involve dynamic and interpersonal elements that may reflect components such as the quality of services and institutions, levels of trust and security, homogeneity and density of friendship networks, flow of information and resources, coherence of values and perceptions among community residents, and opportunities for power and influence.

Select adequate community samples to obtain valid measures of resident experiences.

Support longitudinal studies that can analyze multiple social factors in community settings over time. Such instruments and models would allow the research community to gain insights into the health or deterioration of selected communities, examine the impact of specific social settings (such as schools, detention centers, sports teams, and so forth) on peer and adult relationships, and explore their influence on youth development.

Survey and interview data, which are commonly used to obtain residents' observations about their communities, need to be accompanied by research materials with external validity, either through observational reports or administrative data and records. Together, ethnographic and quantitative studies can provide a richer and more detailed research strategy than that which can be obtained by a single methodological approach.

The dynamic and interactive nature of social settings requires caution in developing appropriate measurement instruments. It is important to know whose perspective counts - especially among youth - in constructing valid residential samples. Assessing the impact of community development efforts, the design and timing of survey studies, interviews, and evaluations can be critical in determining whether a selected intervention has reached the appropriate stage of implementation.

The embryonic work on social settings warrants systematic efforts to orchestrate joint knowledge-building efforts among those who design, study, and evaluate youth service and community development programs.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1995B CONT.)

Institute of Medicine:
The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families

The increasing specialization of the research community has created a need for strategies designed to broaden the dialogue among disciplines, experiment with new forms of research design and data collection, and foster reward systems and a culture that encourage collaborative efforts between research and practice.

The interactive effects of different contextual settings (neighborhood, schools, peers, employment) have not yet been analyzed.

The participants also urged that researchers give attention to the range of variation or consistency within community expectations, norms, aspirations, and sanctions (especially in areas such as child care roles, adult supervision, care of elderly or other dependent relatives, family support, and availability of economic opportunities) in judging the overall quality of a social environment.

The research community needs to improve its ability to measure and assess the contributions of mentorship.

(IOM/NRC, 1996)

Institute of Medicine and National Research Council:
Youth Development and Neighborhood Influences: Challenges and Opportunities

A critical, ongoing examination of emerging theories, instrumentation, and research findings could help integrate efforts to strengthen social organization within disadvantaged communities, improve programs designed to enhance positive outcomes for youth, and create ongoing dialogues between individual program efforts and research studies.

Advances in research need to be directed toward demonstrating the pathways and conditions under which social settings are perceived and influenced by the youth who reside within them. Theory-building and methodological innovations are needed to develop more powerful approaches to capture the complexity of social interactions and specific mechanisms that can explain different developmental sequences and trajectories over time, as well as the variations in youth outcomes within communities.

Assess unclear processes that connect physical and social environments within communities.

Attention must be given to strengthening research in ethnic minority communities, in order to capture the norms and adaptation processes characteristic of different cultures and to discern important factors and processes that facilitate or discourage youth in becoming successful adults.

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM/NRC, 1996 CONT.)

Institute of Medicine and National Research Council:
Youth Development and Neighborhood Influences: Challenges and Opportunities

Better links need to be established between service providers and researchers within community and youth development efforts that engage three types of programs: community-building programs, designed to attract investment capital, regulate land-use patterns, and enhance economic opportunities; social services programs, designed to enhance the quality of community services in areas such as health, safety, and education; and youth-oriented programs, designed to enhance positive outcomes for youth by addressing their basic developmental needs.

Comparative ethnographies (studies of neighborhoods conducted simultaneously across multiple sites), as well as research that uses both quantitative and ethnographic methods, offer critical contributions to theory-building, to the design of research instruments and data collection, and ultimately to the design and refinement of approaches to foster constructive youth development.

Consistent and meaningful boundaries are crucial to the development of studies that rely on quantitative and qualitative measures of change or stability in order to demonstrate neighborhood-level influences on human development.

Create reliable and valid measures of the availability of and access to community services.

Establish relevant community boundaries to facilitate longitudinal studies.

Examine the pathways by which ethnicity and racial heritage influence social settings.

Factor in the importance of timing in assessing patterns of deterioration and growth in urban environments.

Greater effort will be needed to develop research instruments and theoretical models that can identify and measure specific aspects of social interactions within and between neighborhoods.

In considering the implications of research on social settings in program design and future research studies, participants stressed the need for new forms of informed conversations, collaboration, and partnerships between research scientists and service providers in the areas of community and youth development.

Measures that can assess the direction and rate of economic or social change within communities are particularly important in determining interim outcomes of community development programs as well as of programs designed to enhance successful outcomes for youth.

One mediating factor that requires further analysis in this area is the degree of consistency in role expectations attached to adolescents across diverse contexts and cultures.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1997)

Institute of Medicine:
Schools and Health

A formal organization with broad representation—a coordinating council for school health—should be established in every school district.

A major research effort should be launched to establish model comprehensive programs and develop approaches for their study.

An active research agenda on comprehensive school health programs should be pursued in order to fill critical knowledge gaps; increased emphasis should be placed on basic research and outcome evaluation and on the dissemination of these research and outcome findings.

Confidentiality of health records should be given high priority by the school. Confidential health records of students should be handled and shared in the school setting in a manner that is consistent with the manner in which health records are handled in non-school health care settings in the state.

Established sources of funding for school health should continue for public health, agriculture, and education funds, and new approaches must be developed.

In order to implement quality comprehensive school health programs, the training and utilization of competent, properly prepared personnel should be expanded.

Research should be conducted on school-based services, particularly on the organization, management, efficacy, and cost-effectiveness of extended services.

School health services should be formally planned, and the quality of services should be continuously monitored as an integral part of the community public health and primary care systems.

The committee believes that a strong interconnected infrastructure will be essential if CSHPs are to become established and flourish.

The committee recommends that an official state interagency coordinating council for school health be established in each state to integrate health education, physical education, health services, physical and social environment policies and practices, mental health, and other related efforts for children and families. Further, an advisory committee of representatives from relevant public and private sector agencies, including representatives from managed care organizations and indemnity insurers, should be added.

The committee recommends that at the school level, individual schools should establish a school health committee and appoint a school health coordinator to oversee the school health program.

SUMMARY OF RESEARCH RECOMMENDATIONS

(IOM, 1997 CONT.)

Institute of Medicine:
Schools and Health

The committee recommends that further study of each of the individual components of a CSHP—for example, health education, health services, counseling, nutrition, school environment—is needed.

The committee recommends that the mission of the federal Interagency Committee on School Health be revitalized so that the ICSH fulfills its potential to provide national leadership and to carry out critical new national initiatives in school health. In addition, the committee recommends that the National Coordinating Committee on School Health serve as an official advisory body to the ICSH and that individual NCCSH organizations mobilize their memberships to promote the development of a CSHP infrastructure at the state and local levels. The committee also recommends that the membership of the NCCSH be expanded to include representatives from managed care organizations, indemnity insurers, and others who will be key to resolving financial issues of CSHPs.

(MCHB, 1988)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

"Quietly disturbed youth" need to be understood in the phenomenological context of their family and home settings.

A biobehavioral study group composed of experts in molecular neurobiology, neuroendocrinology, endocrinology, growth, adolescent medicine, child psychiatry, and developmental psychology should be formed.

A host of complex factors warrant further study in relation to health, illness, and sickness role behavior, such as cultural differences, individual and familial norms and beliefs, enforced dependency, learned helplessness, and overprotectiveness.

A physiologically oriented examination should be undertaken of hypothalamic GnRH synthesis and secretion during situations of varied steroid levels, altered nutritional circumstances, excessive energy utilization, and psychological stress.

A well-organized epidemiological study using newer psychiatric diagnostic criteria is needed to determine the prevalence of affective disorder and other psychopathologic conditions among adolescents and children.

Acculturation and adjustment of Immigrant youth need to be examined in the context of familial, school, peer, and work experiences.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Address the health-risks of the inactive.

Address the supportive environments that foster optimal psychosocial development during adolescence, with particular attention paid to community and interpersonal relationships.

An expert biobehavioral study group should develop a formal study group for communication with key officials (National Institutes of Health, National Institute of Mental Health, Maternal and Child Health Division of Department of Heath and Human Services, private foundations) as future research priorities and agendas are developed that relate to biobehavioral issues in children and adolescents.

An expert biobehavioral study group should explore with the National Institute of Child Health and Development the feasibility of and need for a separate study section on human growth and development whose membership reflects an understanding of the need for interdisciplinary and cross-disciplinary research.

An expert biobehavioral study group should identify existing measures of maturation within each content area specific to adolescent health and develop a core of measures recommended as most appropriate for each domain, thus offering the potential to facilitate "core uniformity" across future studies.

Another group warranting further study is comprised of technology-dependent youth, who represent a new group of survivors into adolescent and adult life.

Are the abnormal growth hormone secretive patterns found in very early onset affective disorders clinically significant with respect to growth?

Are there measurable psychosocial effects that result from new cosmetic endocrine treatment?

Assessment is needed of pubertal growth, endocrine function, and neuropharmacologic control mechanisms in circumstances of chemical removal of pituitary gonadotrope function by GnRH agonists or antagonists.

Can a neuroendocrine study help elucidate the relationships between affective and eating disorders?

Can carefully designed studies identify the biological contribution to pathology and risk taking behaviors such as substance abuse, suicide, depression, eating disorders, and conduct disorders?

Collect data (statewide and community-based) on adolescent health problems and services.

Collect data on which services adolescents use, who provides them, and how effective they are.

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Concordance and discordance of potency estimates of gonadotrophins made by bioassay and immunoassay deserve resolution. The biologic bases for qualitative changes in bioassayable levels of lutenizing hormone (LH) and follicle-stimulating hormone (FSH) may help to explain changed of gonadal function during the pubertal process.

Conduct longitudinal research to define developmental trajectories and identify risk factors for health compromising and health enhancing behaviors. Map adolescent health disorders with childhood antecedents and adult sequelae.

Conduct pubertal growth research and the role of growth factors and sex steroids in somatic and organ growth maturation.

Convene a national symposium of research and service providers for the purpose of defining and developing a blueprint for a comprehensive national database on youth.

Cross-disciplinary perspective in research, service, and training are fundamental to meeting the needs of these adolescents.

Define adolescence by using biological and psychological maturation indicators and identify existing measures of maturation.

Descriptive and analytic studies should be performed to determine what exists programmatically in integrated community health delivery programs.

Do non-physiological processes alter the tempo of puberty?

Emphasize process and formative program evaluation to develop a better understanding of how intervention programs influence change, as well as why some strategies are not effective.

Encourage research that develops descriptive epidemiologic profiles of adolescent populations, including data specific to high-risk, multineed adolescents.

Evaluate association of certain (risk) behaviors; are they manifestations of common underlying processes or components of a developmental sequence with one behavior preceding another?

Evaluate, summarize, and disseminate findings from numerous community health promotion demonstration programs.

Examine biological/neurological problems manifested during adolescence (i.e.,schizophrenia).

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Examine the interaction between risky behavior and biology (i.e.,changing tolerance levels for substances may effect level used and produce different effects).

Examine the mechanisms by which peers and adults can have a positive influence on risk taking behavior and the development of competency through socially sanctioned experimentation.

Expand knowledge on both national and state levels regarding demographic and morbidity profiles of adolescents.

Explore how poverty and diminished societal support impact families' ability to deal with chronic morbidity.

Explore the biomedical precursors of psychosocial problems for adolescents with chronic illnesses, and the secondary impact of chronic illness, treatment demands, and drug regimens on memory, cognition, school performance, and social interaction for adolescents with chronic physical and social morbidities.

Federal government should fund research to develop and validate uniform outcome measures for community-based health promotion and disease prevention in order to assess its contribution towards achieving the health objectives for the nation.

Fund conference to develop common measures to avoid disparities across studies.

Fund multi-site interdisciplinary studies.

Fund networks to foster interchange that will enhance cumulative data strategies and facilitate the utilization of similar measures across disciplines.

Further analyses of extant data; existing data sets that have been collected at several historic time points can be a critical resource for the study of adolescence because these data allow researchers to determine which changes in adolescents' lives are primarily the result of individual life changes, major sociohistorical changes, or an interaction of the individual life course and the historic situation.

Further assessment must be made of the neurophysiologic inhibition of GnRH production during childhood and the late prepubertal reactivation of the arcuate nucleus "pulse generator." Animal models will be required to examine the role of various neurotransmitters with more invasive monitoring techniques.

Future epidemiologic studies need to define the adolescent age group more carefully using indices of biologic (chronologic age and sexual maturity rating) and psychosocial (psychologic, social, and emotional) maturation.

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Health development must be studied and viewed in relation to the various contexts within which it occurs.

How can others engage adolescents in meaningful ways and maintain bonds?

How can the willingness and ability of health care providers to address the social and physical morbidities of youth be altered by various financing arrangements? What training models are most effective in preparing health providers to meet the needs of adolescent populations?

How have changes in funding for federal programs affected utilization of services in the last few years?

If a specific hormone or biological marker is found that signals altered behavior or mood, to what extent and under what conditions can that behavior be modified by manipulations of the hormonal or genetic environment? Conversely, to what extent can the hormonal environment be altered by manipulations of behavior or psychologic state?

If early onset affective disorder is a genetic disease, what are the mode(s) of transmission? What chromosomal regions are involved? Newer DNA technologies will be required to answer these questions.

In studying risk-taking behaviors, there is a need to distinguish between behavior that is mediated by individual characteristics and behavior that is attributable to the effects of the activity (for instance, substances used) or to an interaction between the activity and the individual.

In the psychologic domain, there is need to develop gender-specific measures specifically designed for use with adolescents. Attention must be given to possible ethnocultural differences, an area relatively unexplored at the present time.

Increase funding and attention to the testing of models for the dissemination and diffusion of Health Promotion programs and demonstrations that have shown effectiveness.

Increase special interdisciplinary conferences on specific biobehavioral topics and research methods to bring researchers up to date, and support interdisciplinary, in-depth reviews by experts in different areas in order to disseminate state-of-the-art information.

Investigation of chronic illnesses that affect growth should be prospective and include identification of those factors that relate to somatic and organ growth (Sms, GH, insulin, and insulinlike growth factor), neuroendocrinologic maturation and control of pubertal processes, and the interaction between the two. Treatments that ultimately affect growth or reproduction deserve special attention.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Investigation of groups of behaviors rather than a single behavior.

Investigators must define maturation (biologic and psychosocial) operationally within the context of individual studies; markers of biologic (somatic growth, hormonal changes, physical sexual development), psychologic (emotional, cognitive), and psychosocial (social and family) maturation require clear delineation. Maturation within each domain is extremely complex, and researcher must identify which component(s) and level of analysis (e.g., pubertal stage versus specific pattern and level of hormone secretion) are relevant to their study.

Is the advent of puberty related to specific (unique) aspects of neuroendocrine and sleep changes in affective disorders? There is a need for further normative data on sleep in adolescents.

Large studies needed to answer questions regarding: a) prevalence and major societal changes; b) normative development trajectories, variations among sub-groups and social structures, documentation of risk behaviors low in frequency but linked to negative outcomes; and c) important correlational or causal association (while controlling for confounding variables).

Little is known about the positive effects of peer interactions.

Longitudinal research on chronic physical and social conditions is needed that is population based and multisite.

Look at issues of attachment and transformation of interpersonal relationships and interpersonal competence, development of appropriate interdependencies and development of healthy interpersonal relationships.

Look at the quality of relationships with significant others, the functional roles of such relationships (e.g., supportive vs. challenging), and the nature and frequency of activities in which significant adults and peers engage with the adolescent.

Make fellowships and training available to provide investigators with new skills to conduct interdisciplinary research in biobehavioral areas.

Must investigate adolescent development with special attention to contextual factors such as: 1. Gender and race (with special emphasis on Asian and Hispanic youth by country of family origin); 2. Socioeconomic characteristics (especially lower socioeconomic groups); 3. Family structure characteristics (reconstituted families, single-parent families, adoptive families, two-working-parent families); 4. Peer group structures, interactions, values, and behaviors, 5. Work settings (e.g., number of hours worked, type of work, financial need present or not); 6. Environmental characteristics such as community characteristics (e.g., urban, rural, size, employment and racial distribution of community); school characteristics, 7. Historical or cohort effects, 8. Age of cohort (both chronological and physiological) and 9. Vulnerability (sampling designs should include vulnerable populations such as illegal aliens, recently arrived immigrants, and youths at risk for serious psychiatric or physical illness).

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Need a more precise conceptualization of "risk taking" to distinguish between constructive exploration and potentially destructive behavior.

Need comparative studies among multiple integrated community health delivery programs to analyze effective and ineffective models and strategies for programming.

Need comparative studies of health status of youth in communities with and without integrated community health delivery programs.

Need comparative studies of impact of categorical and non-categorical funding on the cost-effectiveness of integrated community health delivery programs.

Need longitudinal action research of integrated community health delivery programs with a separation of service and evaluation components.

Need studies of integrated community health delivery programs outside the US with comparisons of mortality and morbidity patterns of youth in integrated community health delivery program service areas.

Need summaries (like the one prepared for the WK Kellogg Foundation) on the effectiveness of community coalitions to guide the selection of the most effective and efficient approaches to improving the health of communities.

Need to increase understanding of adolescent views of risk within their social context. What value is placed on possible outcomes, such as rejection by peers? Are behaviors labeled as negative by adults perceived as such by adolescents?

Need to investigate long-term impact and cost-effectiveness of improving the health status of youth in a community vs. the cost of service provision through integrated community health delivery programs.

Need to know more about the continuum of risk-taking behaviors and define normal behavior (if such a thing is possible).

Need to explore determinants and outcomes of close adolescent relationships with parents and peers: the quality of these relationships; the nature of activities in which adolescents and adults engage; and the functional roles played by these individuals in these relationships. Examine how the quality of these relationships mediates consequences for health providers and risk taking behaviors in late childhood and adolescence.

Need to understand how to influence the health of communities.

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Need to understand more about exploratory behavior and how it is different from risk taking behavior, in terms of undesirable effects and tendency to impede positive psychosocial development.

Need to understand the complex phenomenon of biological maturation and its interrelationship with psychological and social development. This will require investigation of somatic growth.

Need to understand the mechanisms of maturation, and the sources of interference with pubertal processes.

Research and program evaluation would be greatly enhanced by the establishment of a national monitoring system for health behaviors of children and adolescents, including data on both health-enhancing and health-damaging behaviors.

Research should inform service provision and training of health care providers. In addition, service provision should be a prime area for the development of hypotheses that are then subject to empirical scrutiny.

Service programs must include an evaluation component to examine physical, social, and psychologic outcomes for youth receiving services. Process evaluations may augment, but not replace, outcome evaluations.

Small scale studies of homogeneous and heterogeneous groups should be conducted to obtain in-depth understanding of development and processes in a particular context; to collect rich qualitative data; to test reliability and validity of instruments; and to identify important variables for larger study.

Stimulate the development of measurement tools and the refinement of existing instruments in database management and in epidemiological research to evaluate: broad definitions of illness and health, risk behavior, physical health and developmental status, symptomology of illness of youth, resiliency, characteristics of adolescents, and projected life expectancy.

Studies need to be established to examine the relative impact of alternative social decisions on health-related outcomes, e.g., taxes on tobacco, speed limits, school-leaving age, and legal drinking age.

Studies of health/illness/sickness role behavior by adolescents should be undertaken.

Studies should be made of communication and interaction among adolescents, peers, and parents and between adolescents and health care providers. These studies should explore how the patterns of communication and interaction contribute to, perpetuate, or reverse risk behavior and various outcomes related to chronic social and physical conditions.

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Study biological basis of gender differences.

Study how variations in tempo of biologic maturation affect behavior, psychosocial development and health. Are there differences if the tempo is altered by nonphysiological processes such as strenuous exercise, eating disorders, chronic illness, substance abuse, or disorders of growth or endocrine systems. Are there differences across ethnic groups?

Study illnesses that originate in adolescents, are first identifiable in ...cents but may occur later, and those in which adolescents are at highest risk (e.g., atherosclerotic cardiovascular disease).

Study impact of pubertal processes on behavior and development.

Study puberty and pharmacokinetics of drugs used in adolescence.

Study successful adaptation and coping, and determine what factors help to explain successes, resiliency, and the process of overcoming vulnerability. The reasons some adolescents cope successfully while others self-select maladaptive coping strategies should also be explored.

Study the biomedical precursors of psychosocial problems.

Study the impact of alternative parenting supports, mentorship models, support groups for previous interventions, and treatment for adolescents with chronic physical and social morbidities.

Study the impact of chronic conditions on families and specific family members in terms of social functioning, communication, and physical and psychologic health. What family characteristics (psychological, interpersonal, structural, cultural) and characteristics of the chronic condition (onset, severity, prognosis) exacerbate or diminish the impact of chronic morbidities on the individual and family system? What are the implications of changing family composition and formation on adolescents with chronic conditions, and the ability of different family forms to cope with chronic illness?

Study the interaction of the rate of change of hormonal levels and behavior.

Study the nature of the interpersonal engagement processes of adolescent with significant others in relationship to value acquisition and behavior.

Support research focusing on natural histories of illness and conditions of youth.

Support research to determine which adolescent behaviors have their origin in early childhood development and need to be addressed with interventions prior to adolescence.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

Support studies that investigate the impact of health service related policies (such as confidentiality, parental notification, and minor consent laws) on service provision, utilization of services by adolescents and service outcomes.

Systematic neuropharmacologic, electrophysiologic, and anatomic assessment of the hypothalamic arcuate nucleus should be made. This will require the use of recombinant DNA technology to probe cellular regulation of GnRH production.

Technology-dependent youths' adaptiveness, capacity to survive, resiliency, and potential for contribution to themselves as well as to others in society is worthy of further analysis.

The importance of theoretical models to generate specific, testable hypotheses to study biobehavioral development cannot be overemphasized.

The physical and psychosocial effects of hormonal intervention, whether at the end organ (GH, androgen, estrogen), pituitary (GnRH), or hypothalamic (GnRH agonists and antagonists) level must be carefully studied. This is particularly true when dealing with newer "cosmetic" endocrine treatments (GH for normal, short-stature children or in cases with constitutional delay of puberty).

The question arises as to how to define "normal behavior." Should a statistical norm define the standard, or should social or psychologic norms prevail?

The role of biological factors in psychosocial development needs to be more fully explored with respect to hormonal effects of puberty on aggression and nurturing behavior.

The role of biological factors in psychosocial development needs to be more fully explored with respect to biologic/neurologic problems manifested during adolescence, such as schizophrenia and temporal lobe epilepsy.

The role of biological factors in psychosocial development needs to be more fully explored with respect to the interactions between the rate of change of hormone levels and behavior.

The Society for Adolescent Medicine, in conjunction with the Society for Research in Adolescence and other appropriate investigators, should establish a committee to define what problems exist in conducting research with adolescents. Based on what is identified, the committee should recommend a plan for action.

There is a need for evaluation research that focuses on program implementation as well as outcomes.

There is a need for an examination of the interrelationships of behaviors and the positive and negative processes and outcomes of certain behaviors.

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

There is a need for training of senior investigators in fields other than their own; specifically, the study group on adolescent development recommends senior investigator awards for research and training in a discipline other than one's own (e.g., medicine in psychology, sociology in medicine). Currently, research is limited by discipline; however, health issues affecting adolescents cut across multiple disciplines and there is thus a need for cross-collaboration, a process that may be best accomplished when senior investigators in one field spend time in another discipline.

There is a need to investigate carefully the effect of growth at puberty on the pharmacokinetics of the many drugs used in adolescents. Failure to attain therapeutic level of medication is not always the result of a failure by the patient to comply with medical advice.

There is a strong need for systematic cross-disciplinary evaluations that examine the outcomes of different intervention on the survival, physical, social, and psychologic well-being, and functional status of youth with chronic social morbidities.

There needs to be a mechanism by which naturally occurring events are systematically examined.

There should be exploration of the regulators of hypothalamic, pituitary, and gonadal function when pusatile exogenous GnRH administration has replaced the usual endogenous hypothalamic mechanisms.

Understand positive growth, acquisition of new skills, health promoting behaviors and the changing nature of interpersonal relationships.

Understanding of biologic and neuroendocrine maturation is needed.

Utilize natural experiments and the impact of phenomena on healthy adolescent development in adolescents.

What are the biological implications for growth of children with long-term medical needs?

What are the biologic implications with respect to growth of long-term antidepressant or antimanic medication in children and adolescents?

What are the strengths and weaknesses of categorical programs and comparative integrated health and social service programs in meeting the needs of youth with chronic morbidities and their families?

What can communities do to encourage a more supportive environment? What are the existing social support systems for adolescents from traditional and non-traditional families? How can such systems be used or augmented to facilitate optimal functioning?

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1988 CONT.)

Maternal and Child Health Bureau and Society for Adolescent Medicine:
Health Futures of Youth

What is the impact of educational mainstreaming on youth with chronic morbidities, controlling for the type and severity of the condition?

What is the adequacy of coverage for families of adolescents with chronic physical or social conditions under a variety of payment mechanisms?

What is the predictive power of the neuroendocrine and sleep abnormalities demonstrated in children with affective disorder? Studies that challenge or test the specific neuroendocrine or transmitter system will be required to test for causality inferred from current correlational investigations. A prospective longitudinal study is required to determine whether these findings are genetic/trait markers of affective disorders or long term markers of past episodes that persist after detection of the illness.

What regulates neuroendocrine maturation and somatic growth during adolescence? To what extent does maturation of the adolescent biologic system influence psychologic, social, and behavioral development, and vise versa?

Youth health promotion programs should utilize and test models that are based on learning, developmental, behavioral, and/or systems theories. Interventions should have multiple components for intervening at different levels, including individuals, small groups, the school environment, families, and community organizations, and they should make use of marketing, mass media, and social policy.

(MCHB, 1996)

Maternal and Child Health Bureau:
Proceedings of the Fourth National Title V Maternal and Child Health Research Priorities Conference

Conduct ethnographic studies to develop detailed profiles of the characteristics, attitudes, and behavior of young adolescents and families living in different circumstances, in order to identify potentially effective means of intervening to prevent unplanned pregnancies and to promote desirable outcomes among young unmarried pregnant adolescents who choose specific options in pregnancy resolution.

Conduct longitudinal studies on the different pathways to adulthood found among adolescent mothers and fathers and the impact of these pathways on the life course of their children.

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1996 CONT.)

Maternal and Child Health Bureau:
Proceedings of the Fourth National Title V Maternal and Child Health Research Priorities Conference

Conduct population-based, longitudinal investigations of the consequences of pregnancy for different categories of adolescents (males and females, younger and older, low and middle socioeconomic status, non Hispanic whites, African Americans, etc.).

Investigate the extent to which negative outcomes in health and development, often documented for children of adolescents, can be prevented through various forms of family support, parenting education, public income transfers, pediatric health care, child development assistance, etc.

Researchers should conduct evaluations of "naturally occurring experiments" such as widespread consolidation of health services, expansion of managed care systems, and cost-reduction strategies to assess impact on access, utilization, cost, and effectiveness of services rendered.

Researchers should conduct research on the appropriate risk adjustment measures for adolescents. Risk adjustment measures for capitations or rate-setting purposes need to adequately represent the populations of adolescents for whom great variation in service utilization and costs might be expected (e.g., homeless, out-of-school youth, young people with special health needs, etc.).

Researchers should conduct research that seeks to evaluate the effect of integrated, comprehensive, and coordinated health, education, and welfare services for typical populations of adolescents as well as for those with special health needs.

Researchers should determine how various models of training in adolescent health affect the delivery of services among the full range of adolescent health services providers at local and state levels.

Researchers should determine which data items/indicators should be collected as part of ongoing surveillance, and which could satisfy important information needs by being collected only once or on a time-limited basis. What are the appropriate units of surveillance—local, state, regional, or national—for such ongoing monitoring?

Researchers should document which contexts are most influential and at what points throughout the developmental period of adolescence. At which points during adolescence are specific contexts most important? Does the development of health and risk behaviors occur in the same way among adolescents with special health needs as among other adolescents?

Researchers should include a developmental or lifespan focus, which ranges from the preadolescent to post-adolescent years. This perspective needs to devote attention to patterns of both typical and atypical development and to the ways that developmental processes are mediated by the interaction of elements noted above (see ecological systems focus).

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1996 CONT.)

Maternal and Child Health Bureau:
Proceedings of the Fourth National Title V Maternal and Child Health Research Priorities Conference

Researchers should include adolescents with special health needs and other understudied groups such as institutionalized adolescents, young people in foster homes, and bisexual, gay, and lesbian youth.

Research priorities should include an ecological system focus, which emphasizes the centrality of a biopsychosocial perspective on adolescents, and is grounded in an understanding that substantive influences on health status, behaviors, attitudes, and life choices of young people emanate from the complex interplay of biological, psychological, social, and structural factors. This perspective also accentuates the importance of studying gender, culture, class, ethnicity, race, and economic resources.

Research priorities should include an emphasis on the phenomenology of the adolescent experience, derived from adolescents' perspectives. Since adolescence is really the first time that individuals become actively involved in creating the contexts/climates in which they function, a phenomenological approach recognizes the central importance of understanding the meanings of behaviors and events through the eyes of adolescents themselves in order to advance understanding.

Research priorities should include an interdisciplinary research orientation, which recognizes that research collaborations across disciplines enrich the repertoire of theory, methods, and understanding of adolescence, and increases the likelihood that such research will have value to broader constituencies than single-discipline audiences.

Research priorities should investigate the dynamic influences of peer, family, school, and community contexts on manifestations of optimal health and well-being among adolescents. What protective factors promote resilience and resistance among young people at high risk for adverse biopsychological outcomes? Which of these protective factors are most amenable to health-promoting interventions?

Research priorities should investigate the factors, from both micro and macro levels, that promote adolescents' timely access and utilization of health services, with attention to understanding which modifications in service delivery systems, provider training, and young people's health education would help adolescents to engage in the health care system more appropriately.

Research priorities should investigate the impact of adopting new guidelines for preventive care of adolescents on adolescent health and well-being, and on the prevention and reduction of health-jeopardizing behaviors.

Research priorities should investigate the relative efficacy of targeted versus comprehensive program approaches to prevention in adolescence. What types of programs work best with whom - when, and why? How do prevention and intervention efforts need to be targeted within groups of adolescents (varying by gender, race, ethnicity, and class) in order to obtain maximum fit between strategy and program participant characteristics?

SUMMARY OF RESEARCH RECOMMENDATIONS

(MCHB, 1996 CONT.)

Maternal and Child Health Bureau:
Proceedings of the Fourth National Title V Maternal and Child Health Research Priorities Conference

Research priorities should investigate ways that variations in type and mix of service providers affect quality and cost-effectiveness of primary and preventive adolescent health care services.

Research priorities should study how and to what extent state Title V units influence state-level government decisions affecting adolescent health (e.g., resource allocation, promulgation of relevant authorization, appropriations, statutes, regulations)?

Research priorities should study how the various contexts of adolescents (i.e., families, peers, schools, and communities) and their interaction affect the onset, especially the early onset, of adolescent health-jeopardizing behaviors. How do these various contexts and their dynamic interaction, for example, contribute to the development of mental and somatic health problems during adolescence?

Research priorities should study the changing of environments through regulations and policies, and the subsequent impact on health and risk behaviors (e.g., changing access to firearms). What is the interaction of individual development and environmental changes (i.e., at what ages do various environmental changes have optimal impact)?

Research priorities should study the effectiveness of family-focused interventions designed to promote adolescent health and family functioning.

Research priorities should study the functional meanings of specific behaviors for adolescents. What do various health-compromising or health-promoting behaviors signify in the lives of young people? In light of their individual levels of understanding, what approaches and strategies for health education and health promotion work most effectively?

Study the factors determining the transmission of values and patterns of behavior conducive to adolescent childbearing from one generation to the next.

Study the role of the family in helping adolescent males (regardless of whether they marry and live with the mothers of their children) accept and adjust to their new parenting roles and responsibilities.

What is the impact of school-based and community-based models of service delivery on access, availability, content and quality of care, utilization, effectiveness, and outcomes?

What models, approaches, and strategies at the state level have been most effective in promoting an adolescent health agenda among other types of competing agendas?

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NAHIC, 1999)

National Adolescent Health Information Center, UCSF:
Targeting the Neediest? Analysis of Health Policy Development Related to Adolescent Special Populations

Develop more targeted needs assessment capability. Support and train state adolescent health coordinators and others to use a wider range of analytic tools when conducting needs assessments.

Improve the quality of national data collection with more specific data regarding special populations. Develop strategies for improving data collection of these special groups, for disseminating existing relevant data sources, and for gathering information regarding co-morbidity.

Maintain and expand federal support for data collection regarding special populations. While states will increasingly become more responsible for programs and data, there is a continuing need for federal support and oversight in conducting national representative studies and for developing surveillance data about the more alienated members of society represented by these special populations.

More research and consensus is needed on the risks and benefits of targeted versus universal interventions to improve adolescent health.

(NASB, 1990)

National Association of School Boards:
Code Blue: Uniting for Healthier Youth

Develop local objectives, indicators, and tracking systems for adolescents.

Increase research about adolescent health problems and their precursors, and on model prevention and health education programs.

Increase research on effective service delivery to adolescents.

Provide funding for state and local officials to establish measurable health objectives, indicators and tracking systems to assess progress.

(NCI, 1991)

National Cancer Institute:
Reduction of Cancer Risk Behaviors in High-Risk Youth

Develop and test, through community-level institutions, methods and interventions for the primary prevention of cancers related to poor diet, tobacco use, alcohol use, and early or unprotected sexual activity.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NCI, 1994)

National Cancer Institute:
Educational Intervention Research on Cancer Risk Reduction for High-Risk Youth, Program Announcement

Develop, evaluate, and disseminate effective cancer risk reduction methods and materials for high-risk youth (defined as children or adolescents aged 1 to 18 years who are from low socioeconomic status households or communities).

More research is needed on the effects of culturally appropriate intervention models emphasizing cultural pride and history, and the use of ethnically matched staff and peer educators.

Design and conduct randomized controlled studies among a representative sample of high-risk youth to determine the knowledge, attitude, and behavioral effects of these educational interventions.

(NCC, 1992)

National Commission on Children:
Beyond Rhetoric: A New American Agenda for Children and Families

Collect relevant monitoring data on youth in the child welfare system and establish guidelines for a uniform data collection system in every state.

Launch demonstration projects within states to build on federal initiatives.

We recommend incentives to encourage demonstration projects and other experiments in coordination and collaboration of services at the state and local levels.

We recommend that a demonstration of suitable scale be designed and implemented to test an insured child support plan that would combine enhanced child support enforcement with a government-insured benefit when absent parents do not meet their support obligations. Contingent on positive findings from this demonstration, the Commission recommends establishment of the insured child support benefit in every state.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NHLBI, 1994)

National Heart, Lung, and Blood Institute and National Institute of Diabetes and Digestive and Kidney Diseases:
Physical Activity and Cardiopulmonary Health, Program Announcement

Because obesity is associated with a variety of increased risk factors and weight loss is associated with their decline, research should focus on the relative roles of physical activity and calorie reduction in weight loss and, in turn, lowered risk factors.

For all of the above questions are there different effects for various demographic groups (age, sex, race/ethnicity, socioeconomic status)?

How are intensity and duration of activity related to cardiovascular fitness over time? For example, lower intensity activity may promote cardiovascular fitness but take a longer time to obtain an effect than higher intensity activity.

Studies of the determinants and efficacy of interventions to prevent the decline in physical activity during adolescence are needed. Attention to this transition period is critical since it is recognized that physical activity and fitness decline, particularly for females during the early teen years. What are effective approaches to prevent this decline in females?

Studies to determine the effects of varying physical activity regimens on physical fitness and on coronary heart disease risk factors for coronary artery disease (e.g., obesity, lipoproteins, blood pressure) in adolescents are needed. This includes investigations on the dose associated with or required to effect change in fitness, and in adult coronary risk factors identified in adolescents.

There is little information in the field on the determinants of various patterns of physical activity including sedentary behavior, and low-, moderate-, and vigorous-intensity activities in adolescents.

What are the determinants of the types of (physical) activity and patterns of participation in terms of type, frequency, duration, and intensity of activity?

What are the minimum physical activities that can be pursued to promote a sufficient level of cardiovascular fitness to maintain health, and are these age related?

What is the role of hormonal variables associated with the onset of puberty in the relationships among physical activity, fitness, and lipids?

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIAAA, 1992A)

National Institute on Alcohol Abuse and Alcoholism:
Research on Children of Alcoholics, Program Announcement

Note: recommendations listed from this document are to be conducted with large, non-clinical populations.

Are there characteristics of "psychological resilience" that buffer the adverse effects of parental alcoholism on some children? If such characteristics exist, what are they, and can they be developed in other children of alcoholics?

Are there consistent age-related progressions of problems in children of alcoholics? In other words, do children of alcoholics experience different problems at different ages? Do particular early problems serve as warning signs of later problems? Can effective prevention strategies be developed and implemented for these at-risk children? What are the positive and negative effects of labeling children at-risk?

Do children born after a parent's recovery from alcoholism suffer psychological problems at a rate higher than children from families who have not had a past problem with alcoholism? How do their problem rates compare with those of children of active alcoholics? How do they compare with those of children of individuals with other chronic conditions (e.g., schizophrenics or renal dialysis patients)?

Do family factors exist that reduce the risk of problems in children of alcoholics? Do children of male alcoholics have the same problems as children of female alcoholics? How are the type and severity of parental alcoholism related to symptoms in children?

Studies of the variety of adverse consequences for children of alcoholics may also include the relationship between excessive drinking and sexual abuse of children and of spouses. Research on the role of excessive drinking in other violent behavior directed towards children and spouses is also of particular interest.

What are the characteristics of individuals who are affiliated with adult children of alcoholics groups? How does the age, race, and sex composition of these group compare to Alcoholics Anonymous? What are the psychological characteristics of participants in adult children of alcoholics groups?

What are the psychological characteristics associated with having one or both parents alcoholic? Are these characteristics specific for children of alcoholics or are they similar to those found in offspring of other dysfunctional families?

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIAAA, 1992B)

National Institute on Alcohol Abuse and Alcoholism:
Research on Economic and Socioeconomic Aspects of Alcohol Abuse, Program Announcement

Research is needed on evaluations of non-sanction-based deterrence initiatives for drinking and driving, such as server intervention, designated driver campaigns, and the provision of alternative means of transportation.

Research is needed on the development and testing of cost-benefit models of risk taking behavior, especially among youth.

Research is needed on the effects of price changes and availability controls on levels of alcohol consumption and alcohol-related problems.

Research is needed on the effects of types, levels, and combinations of sanctions in producing both general and specific deterrence to drinking and driving.

Research is needed on the impact of advertising on the development of alcohol expectancies and drinking behavior, especially among youth.

Research is needed on the impact of changes in alcohol taxation on economic efficiency, equity, and public health.

Research is needed on variations in price and income elasticities among different types of drinkers (heavy, moderate, light) or among demographic subgroups (e.g., youth).

Stimulate research in risk-taking behavior and its relationship to drinking.

Stimulate research in the costs and financing of alcoholism treatment services.

Support additional, high-quality research on economic and socioeconomic aspects of the prevention, treatment, and epidemiology of alcohol-related problems.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIAAA, 1992C)

National Institute on Alcohol Abuse and Alcoholism:
Research on the Prevention of Alcohol Abuse Among Youth, Program Announcement

Assess changes in college student behavior regarding alcohol use/abuse before and after implementation of State or Federal legislation and University-wide action to cope with alcohol abuse. Assess effects of intervention strategies regarding alcohol use and abuse across varying types of college campuses.

New and creative research is needed on the development and testing of strategies to prevent alcohol abuse among youth including children, adolescents, and young adults.

Research (is needed) regarding norm-setting and norm-enforcement by parents and families, primary-care physicians and their staffs, youth peer groups, elementary and secondary public and private schools and/or school systems, colleges and universities, and/or other community organizations that have direct contact with children, adolescents, and young adults.

Research (is needed) that examines links between the social setting and enforcement of norms by peer groups, parents and families, educational and legal institutions, and community organizations to prevent abusive drinking by youth.

Research could focus on designing more effective interventions for identifying high school drop outs who demonstrate a 'problem behavior' syndrome.

Research could focus on the influence of alcohol on date rape.

Research is needed on interventions which focus on changing environmental conditions that permit alcohol use by youth, as well as conditions that prohibit alcohol use.

Research is needed to identify underlying mechanism by which ethnic and racial differences in the use of alcohol by high school seniors occurs, taking into account cultural factors in preventing alcohol related problems among racial and ethnic groups.

Research is needed on methods to reduce the incidence/prevalence of alcohol related problems among adolescents. This research should focus on one or more aspects of these problems: age of onset; frequency of drinking; binge drinking; alcohol-related fatal crashes and injuries; and violence/arrests.

With regards to preventing alcohol abuse, research is needed that compares the effectiveness of the guidance offered by doctors with that offered by nurses or other allied health professionals. Attempts should be made to reach adolescents at "teachable moments", in particular at the onset of puberty.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIAAA, 1995)

National Institute on Alcohol Abuse and Alcoholism:
Mechanisms of Adolescent Alcohol Abuse and Alcoholism, Program Announcement

Animal studies of the acute and chronic effects of alcohol on brain and behavioral functioning during adolescence, and the effects of early exposure on adult functioning should be conducted.

Conduct basic research, using animal models and state-of-the-art imaging techniques in humans, to identify the neurobiological, physiological, and genetic factors that lead to adolescent alcohol abuse and dependence.

Evaluation of the effects of alcohol ingestion during adolescence would further our understanding of alcohol's immediate consequences and the contribution of early alcohol exposure to excessive drinking and abnormal cognitive and social functioning during subsequent developmental stages.

Human studies and animal studies should be conducted using different genetically defined strains to examine the interaction among premorbid temperament/personality, cognitive functioning, neurobiological, environmental, and genetic factors in the development of addictive behaviors in adolescents.

Ontogenetic studies should be conducted to compare patterns of alcohol-related behavior (e.g., alcohol reinforcement, sensitivity) as well as their neurochemical, neuropharmacological, neurophysiological, and neuroanatomical mechanisms during each stage of postnatal development.

Studies should be conducted of the gender differences in alcohol's effect on normal hormonal activation during puberty and mechanisms of alcohol's effect on neuroendocrine-neurotransmitter interactions.

Studies should be conducted of recovery of neural and behavioral function following alcohol consumption to determine if the adolescent brain is more or less vulnerable than the adult brain to alcohol's acute and chronic effects should be conducted.

The relationship between alcohol-induced hormonal/neurotransmitter disturbances during adolescence on the development of gender differences in behavior (including mood, stress, peer relationships, sexual behavior, aggression, cognitive functioning) should be studied.

There should be development of animal paradigms to study modes of initiation of alcohol-seeking behavior and alcohol's effects on reinforcement, drug discrimination, sensitization, tolerance, and dependence during the juvenile through adolescent period.

Use of noninvasive neuroimaging (MRI, MRS, PET, SPECT), neurophysiological (EEG, ERP, MEG), and neuropsychological/cognitive measures in adolescent humans/animals to study brain mechanisms of craving, intoxication, and withdrawal, and to assess progression of damage and recovery of function following abstinence should be implemented.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIAMSD, 1992)

National Institute of Arthritis and Musculoskeletal and Skin Disease:
Research Surveillance and Related Studies of Sports Injury in Youth, Program Announcement

Research on sports injury should be conducted in the following areas: developing surveillance systems for consistent national data collection; developing a national sports injury data base, injury characterization and intervention schemes; coordination of data from diverse sources, developing methods for "small area sampling" of special injury situations; evaluating re-injury rates and risks; expanding surveillance to include intramural and extra-scholastic sports; expanding injury surveillance to include primary grades; comparing injury rates and conditions to college and professional sports; considering a wide range of external factors that may add to risks; and developing and evaluating instructional prevention programs.

(NICHD, 1992)

National Institute of Child Health and Human Development:
Research on Fertility and Fertility-Related Behavior, Program Announcement

Advances in developing measures that capture multiple dimensions of motivation, that distinguish motivation to become a parent from motivation to prevent pregnancy or birth, and that may be appropriately applied to both men and women need further development, particularly among minority and low income populations.

Encourage research on the extension of biosocial models of fertility and fertility-related behaviors. These models may fruitfully be extended to adult behaviors and to the investigation of the intergenerational transmission of behavioral patterns.

Extend the understanding of fertility and fertility-related behaviors by explaining recent developments in fertility and their relationships to other social changes and by developing and testing new and expanded models at either the individual or aggregate level to explain variation in fertility and related behaviors.

Further research is also needed on the implications of current fertility trends for children, adults, and society.

Innovative means must be devised to avoid biased samples in designing research (on the outcomes of unintended pregnancy).

Research is needed to examine the impact of economic and social factors in shaping alternative strategies for childbearing and child rearing and the family and contextual processes that shape norms and values about sexual and reproductive behavior.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(NICHD, 1992)

National Institute of Child Health and Human Development:
Research on Fertility and Fertility-Related Behavior, Program Announcement

Research on the determinants and consequences of male fertility and fertility-related behaviors is needed to complement knowledge gained from research focused on women alone.

Success of research (on fertility-related behaviors) may depend on the development of new theoretical approaches and/or the development of improved and innovative methods for measuring fertility-related behaviors and the processes that influence them.

What factors contribute to the postponement of sexual activity and the choice and maintenance of a stable union as a context for child rearing?

What underlies the early sexual involvement of many young people and the choice of non-marital childbearing by increasing proportions of young adults?

(NIDA, 1991)

National Institute on Drug Abuse:
Drug Abuse Prevention Research Centers, Program Announcement

Research is needed to formulate theories of drug use onset and progression and test them through the design and evaluation of theory-based preventive interventions.

Research is needed to design drug prevention interventions appropriate to general populations and sub-populations at risk of drug abuse, and to test these interventions through controlled randomized studies established in relevant settings to include schools, family homes, institutions, the work place, and neighborhood organizations.

Research is needed to integrate and disseminate the drug prevention research knowledge base through national leadership in programming and evaluation, research training, and coordination of research planning with other prevention research centers.

Research is needed to increase the capacity of the field to conduct drug prevention research and evaluation.

Research is needed to facilitate the diffusion of research findings and innovative preventive practices to drug abuse researchers, practitioners, and policy makers.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIDA, 1992)

National Institute on Drug Abuse:
Clinical Research on Human Development and Drug Abuse, Program Announcement

Also of concern is the impact of child abuse and neglect by drug abusing care providers (mother, father, and household members) in the etiology of developmental and psychiatric disorders associated with subsequent drug use.

Applicants are encouraged to utilize a family model and consider multi-generational, environmental and cultural factors.

More research is needed on assessment procedures and to explore the relationship between stage and rate of development and effects of drug exposure.

Research is needed on the stages of development, vulnerabilities at each stage, possible interventions at each stage, effects of physiologic, affective, cognitive, and social development that sets the basis for subsequent development, and possible prevention strategies to prevent dysfunctional effects and further drug exposure and risk of drug use by the developing child and adolescent.

(NIDA, 1993)

National Institute on Drug Abuse:
Drug Use and Abuse in Minority and Underserved Populations, Program Announcement

Also encouraged are studies that critically validate the cultural relevance of current methodological approaches and those that utilize rigorous research designs within the context of their data collection activities.

Community-based studies with matched control groups where feasible are encouraged; longitudinal efforts and secondary analysis of existing data studies are also supported.

Encourage research on the extent and nature of drug use and abuse among ethnic/racial minority groups and other underserved populations.

Encouraged also are studies that investigate the impact that poor parental supervision, parental and older sibling or other relative drug use, breakdown of the extended family system, the changing role of the mother and father within the family system, and parents' socioeconomic status have upon the drug-using behavior of these population groups.

Encouraged also are studies that investigate the role that racism, negative social sanctioning by established social institutions such as schools and social service programs, law enforcement programs/strategies, membership in gangs and organized criminal associations, lack of religious affiliations, and feelings of powerlessness toward society have upon the drug-using behavior of the identified population groups.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(NIDA, 1993 CONT.)

National Institute on Drug Abuse:
Drug Use and Abuse in Minority and Underserved Populations, Program Announcement

Especially encouraged is research that investigates resiliency and protective factors among minority children who may otherwise be at high risk of using drugs but do not.

Explore the impact that factors such as the availability and price of drugs and drug distribution networks, local laws against the use and selling of drugs, neighborhood attitudes and social norms and mores related to drug using/dealing, poor school systems, and a lack of adequate community recreational and employment opportunities have upon the drug use behavior of ethnic/racial minority groups and other underserved populations.

Feelings of low self-esteem, depression, low self-efficacy, aggressive or noncompliant behavior, coping styles, misperceptions of harmful consequences, maturation-related transitions from infancy to adulthood, psychopathological conditions, and other related psychological problems also are appropriate study foci (re: drug-using behavior of underserved populations).

Investigate the interactive roles of intrapersonal, interpersonal, familial, cultural community, and other larger societal factors upon the onset, casual use, escalation to use, maintenance, development of dependence, cessation of use, and relapse of drugs among ethnic/racial minority groups and other underserved populations.

Methodological studies that seek to develop scales to measure accurately the complex and multidimensional nature of the construct of culture among each of the various racial/ethnic minority groups are also encouraged (re: drug use).

Projects are encouraged to utilize qualitative and quantitative methods in combination; a reliance on retrospective data is discouraged.

Research in this area seeks to evaluate whether the patterns, including the sequencing and multiple use and abuse of drugs of ethnic/racial minority youth, school dropouts, gang members, children of drug users, and homeless youth differs from non-minority youth as reported by drug abuse researchers.

Research in this area should focus on exploring the importance of cultural values and attitudes toward drug use, acculturation related stress, or loss of cultural identification upon the drug-using behavior of the various ethnic/racial minority groups previously identified. Studies that explore the role of cultural values that may protect ethnic/racial minority females, particularly those belonging to recent immigrant groups, from the use and abuse of drugs, should be conducted.

Research on the interrelationship between drug abuse and violence, including domestic violence among ethnic/racial minority youth, school dropouts, and gang members is particularly encouraged.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIDA, 1993 CONT.)

National Institute on Drug Abuse:
Drug Use and Abuse in Minority and Underserved Populations, Program Announcement

Research should focus on the role that such factors as lack of family support including ineffective parenting and lack of mutual parent-child attachment and warmth, family violence, and lack of male role models have upon the initiation, continuation, escalation, and cessation of drug use among ethnic/racial minority groups and other underserved populations.

Research should investigate whether or not a subculture of drug use exists among the various underserved population groups.

Studies that help in the development of information which can lead to the early identification of those at risk of drug use and abuse among the various ethnic/racial groups and underserved populations are particularly needed.

Studies that provide data on identifying the motivating factors responsible for the cessation of drug use among school dropouts, children of drug users, longtime drug addicts, young African-American, Asian American and Hispanic male and female adults are invited.

These studies should be based upon a multidimensional and multidisciplinary perspective where the exploration of drug use will be grounded within a person-in-situation-environment configuration with reciprocal interactions existing among and within the various systems with which an individual interacts.

(NIDA, 1994A)

National Institute on Drug Abuse:
Comprehensive Prevention Research in Drug Abuse, Program Announcement

Determine the efficacy and effectiveness of comprehensive drug prevention programs in two general areas: (1) measurement of the short- and long-term effects of comprehensive drug prevention, and (2) assessment of the generalizability of these research findings to high-risk populations.

Develop psychometrically sound measures, instruments and data collection procedures to assess the process, outcome, and impact of comprehensive prevention strategies.

Encourage rigorous scientific study of multiple component substance abuse prevention technologies implemented across several systems including schools, families, peers, and the social environment (workplace and community) to determine their efficacy and effectiveness in preventing the onset of drug use and progression to abuse.

Health services research that assesses the effectiveness of comprehensive drug preventive care service systems in real world settings is also requested under this program announcement.

Research is needed to assess comprehensive drug prevention that includes components focused upon restructuring the social influences of the peer group and increasing the social bonding of youth to school, home, workplace, church or neighborhood.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIDA, 1994A CONT.)

National Institute on Drug Abuse:
Comprehensive Prevention Research in Drug Abuse, Program Announcement

Research is needed for a variety of prevention strategies to include: family preservation models; student assistance programs; modification of school environments; and in-home interventions.

Research is needed to apply our knowledge of relevant determinants of drug use to the design and testing of interventions that strengthen the development of positive self-regulated health behaviors. Research is needed to assess multiple component and comprehensive strategies that simultaneously utilize the schools, media, family, peers, social networks, and health policies to both shape and reinforce the process of self-regulated health behavior change.

Research is needed to assess the efficacy of comprehensive drug prevention that includes parent education.

Research is needed to assess the efficacy of drug-related policies and legislation to establish drug-free school and community zones and a drug-free workplace.

Research is needed to design and test drug prevention strategies that involve community organizations and institutions that establish an environment in which durable, positive self-regulated health behavior change can be developed and maintained.

Research is needed to determine how drug-free policies and legislation can enhance the effects of more traditional comprehensive drug prevention activities involving schools and families.

Research is needed to develop and test models of community/environmental change that capitalize upon existing community leadership and organizations to deliver effective drug education messages, encourage environmental change, promote drug-free norms, and establish community coalitions to take effective preventive/deterrent actions particularly within high risk neighborhoods.

Research is needed to develop and test the most effective techniques for community change that may involve community advisory boards, task forces, parent groups, professional associations, individual community leaders and relevant grassroots entities.

Research is needed to test the effects of preventive strategies for developing and maintaining: (1) behavior skills, such as self-monitoring, goal setting, and self-incentives; (2) cognitive structures, such as self-efficacy and intrinsic motivation; (3) perceptions of the harmful consequences of drug use/abuse; (4) awareness of personal and social disapproval of drug use/abuse; and (5) affective/emotive impulse controls.

Research should focus on a broad spectrum of drug behaviors, such as the use of tobacco products, marijuana, cocaine/crack, IV drug use, prescription/over-the-counter medications, and polydrug use/abuse. Research is encouraged that focuses on rural and inner city populations.

Special attention should be given to culturally diverse populations and to sub-populations at high-risk of drug use onset and progression.

Studies should involve the use of randomized controlled clinical trials or well-controlled quasi-experimental research designs.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIDA, 1994B)

National Institute on Drug Abuse:
Inhalant Abuse Research, Program Announcement

Develop improved methods of detecting and differentiating different types of inhalant use, especially long-term use, through laboratory and self-report methods; develop improved methods of detecting and treating medical conditions associated with inhalant abuse; and improve methods of evaluating the physiological effects of inhalants in human subjects, such as more sensitive neuropsychological batteries and related techniques that allow differentiating the effects of inhalants from other drugs and conditions.

Evaluate associated learning difficulties as both a cause and a consequence of inhalant use.

Inhalant studies should focus on treatment designed specifically for adolescents, chemically dependent pregnant women, high-risk individuals, individuals with co-occurring medical and/or mental disorders, and those involved in criminal activities.

Research is needed to determine the bases for the initiation and development of inhalant dependency and includes community-based and longitudinal and cultural studies with matched controls.

Research should be directed toward developing screening techniques, biological (e.g., brainstem evoked responses) and other measures, such as those based on self-report and diagnostic tools related to criteria specific to inhalant abuse and dependency.

Studies are encouraged that focus on cultural values and attitudes toward inhalant use, acculturation related stress or loss of cultural identification of minority individuals, of the existence of subcultures of inhalant use, cross-cultural etiology (local, endemic, or worldwide), drug availability and distribution networks, recreational and employment opportunities, negative social sanctioning and attitudes within society, gangs, religion, and empowerment on the use of inhalants should be considered.

Studies are needed to provide a definitive understanding of the patterns and prevalence of inhalant use among high-risk minority youth, school dropouts, gang members, children of drug users, and homeless youth.

Studies could focus on how such factors as lack of family support, family violence, lack of role models, poor parental supervision, parental drug use, breakdown of the extended family system, association with different peer groups and socio-economic status affect the initiation, continuation, escalation, and cessation of inhalant use among individuals at risk of using drugs, particularly minority youth.

Studies of the impact of psychological, developmental, and psychopathological factors, influence of low self-esteem, depression, aggressive behavior, coping styles, or the opposite factors that establish resiliency and protection for those high-risk minority children who do not abuse drugs such as inhalants are relevant.

Study the role of criminal activity (including deviance and rebelliousness) in inhalant users.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIDA, 1994C)

National Institute on Drug Abuse:
School-Based Prevention Intervention Research, Program Announcement

Assess the effectiveness of drug prevention programs under real world conditions.

Encourage the scientific study of drug abuse prevention strategies that are based in the school environment to determine their efficacy in preventing the initiation of drug use and dependent patterns of drug abuse.

Promote research studies that examine the relationship between theory-based prevention intervention strategies and drug using behaviors delineating the effects of these interventions on one or more of the following domains: cognitive, affective/interpersonal, behavioral, environmental/policy, and therapeutic.

Research must include both process and controlled outcome studies and must examine the relationship between process and outcome.

These studies should focus not only on drug use behaviors but also on those behavioral, attitudinal, cognitive, and environmental factors that are to be influenced by the intervention.

(NIDA, 1996)

National Institute on Drug Abuse:
Drug Abuse Prevention through Family Intervention, Program Announcement

At what age and/or stage of the child's development are prevention interventions most effective? Can family prevention interventions be effective for children entering elementary school as well as adolescents entering high school?

Do boys and girls require different interventions and at what age or stage of development should gender specific interventions within the family be targeted?

Intervention research is also needed which may include extended family – those persons who are also influential in the life of the child such as grandparents, aunts, uncles, siblings, guardians, etc.

Interventions need to be tested with families at different levels of functioning. Research is needed to develop and test family prevention interventions which focus on the most at-risk dysfunctional families and what works for them in helping to prevent drug abuse in their children.

Longitudinal and cross sectional studies with tests of the effects of booster sessions or differing levels of intermittent intervention are important to examine in order to assess long-term effects of drug abuse prevention interventions focused upon families.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIDA, 1996 CONT.)

National Institute on Drug Abuse:
Drug Abuse Prevention through Family Intervention, Program Announcement

Prevention intervention strategies for families should entail a comprehensive approach to their needs at the Universal, Selective and Indicated levels. (Universal prevention interventions are targeted to the general population group which share a general risk to drug abuse. Selective prevention interventions are targeted to individuals or a subgroup of the population with well defined risk).

Research is needed to test family interventions which are ethnically, culturally, religiously and/or racially relevant to family members.

Studies need to be conducted to test how strengthening families through theory-based preventive interventions can counteract negative peer influences.

Studies need to be conducted using a "systems" approach with multiple levels of interventions which can have a synergistic effect. This includes research of various combinations of interventions such as family and school; family; school and community; and other combinations of components.

Studies need to be conducted that compare family prevention interventions using new technologies of intervention delivery to traditional talking or educational family prevention interventions and to various combinations of new technologies and traditional methods.

Studies regarding the "dosage" of interventions need to be conducted; for example, what are the enduring effects of a single phase family intervention (e.g., a series of 10 sessions) compared to a multiphase intervention multiple series on a yearly basis. Studies also need to be conducted on the interaction of "dosage" and level of family functioning.

There is also little known about family prevention interventions based on the gender of the parents and the effectiveness of these interventions.

Theory-based drug abuse prevention intervention models for the family should be tested with the goal of lowering risk factors, enhancing protective factors, and preventing drug abuse behaviors.

(NIH, 1993)

National Institutes of Health:
Summary of Research Targeting the Needs of Adolescents

Chart normative development in minority youth.

Develop and test interventions that focus on helping older children and adolescents adopt health-promoting cognitive and behavioral patterns.

Development and testing of community-based models to increase access to health care in rural areas.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIH, 1993 CONT.)

National Institutes of Health:
Summary of Research Targeting the Needs of Adolescents

Explain the biobehavioral bases for health-promoting and health-damaging behaviors, including how responses to life experiences may alter biological structures and functions.

Further research is needed on the role of the neuroendocrine system in stimulating bone growth, and on its impact on the cognitive, emotional, and behavioral changes of puberty.

Increase studies focused on "normal development" and expand research in this area that is supported by collaborative arrangements between two or more institutes.

Increase understanding of the complex influences that affect health-related cognition, decisions, and behaviors, and of how these change during development.

Longitudinal studies are needed on adolescents' abilities to cope with depression.

Researchers need to know more about resilience, and the interacting factors that help some young people to overcome obstacles such as poverty, racism, or family difficulties, while others are blocked from achievement.

Intervention studies should be developed for the prevention and treatment of diabetes mellitus in adolescents. These studies should focus on dietary and therapeutic interventions.

Research is required to confirm pubertally-associated delays of the biological clock and to identify the underlying mechanisms.

Adolescent screening for drug abuse should be standardized to provide an instrument for diagnostic use in a cost-efficient treatment referral system.

Study developmental trajectories of drinking behavior for subgroups according to gender, ethnicity, and various indicators of high risk.

Study how to prevent noise-induced hearing loss in youth.

Too little study exists on the interactions among behavioral, economic, biological, psychological, and cultural mechanisms in young people.

Understand the development of attitudes, expectancies, and normative behavior regarding alcohol use by youth.

What are the essential elements of a school-based smoking prevention program?

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1991A)

National Institute of Mental Health:
Centers for Research on Mental Health Services for Children and Adolescents, Program Announcement

Multidisciplinary research is needed to improve the organization, financing, delivery, effectiveness, and outcomes of mental health services for children and adolescents.

(NIMH, 1991B)

National Institute of Mental Health:
Child and Adolescent Mental Health Service System Research Demonstration Projects, Program Announcement

Research is needed on the effectiveness of alternative models of particular approaches to community-based systems of care as a mechanism for providing more appropriate and less restrictive alternatives to residential treatment for children at risk for serious emotional or mental disorders.

Research needs to be designed to assess the financial, social and emotional impact of particular approaches to community-based systems of care on children at risk for serious emotional or mental disorders and their families.

Research is needed on the relative efficacy of innovative service approaches (e.g., intensive home-based services, therapeutic foster care, respite care, case management) as compared to existing services for children at risk for serious emotional or mental disorders.

Research is needed on approaches to cost-containment and the impact of different reimbursement strategies on service delivery for children at risk for serious emotional or mental disorders.

Research is needed on the effectiveness of newly emerging funding and financing strategies in both increasing the availability of services and reducing family burden for children at risk for serious emotional or mental disorders.

Studies are needed on the impact of co-morbidity (e.g., physical illness, adolescent pregnancy, HIV infection, alcohol and drug abuse, mental retardation) on need and access to services for children at risk for serious emotional or mental disorders.

Research is needed that examines the relative efficacy of different family support approaches, the impact of different strategies for involving families in case planning and decision-making as partners with professionals, barriers to care from a family perspective, and the effect of different organizational structures and practices on the responsiveness of service systems to the needs of families of children at risk for serious emotional or mental disorders.

Studies are needed on the nature, role and effectiveness of services by nontraditional providers (e.g., street workers, runaway services) to children at risk for serious emotional or mental disorders.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1991C CONT.)

National Institute of Mental Health:
Implementation of the National Plan for Research on Child and Adolescent Mental Disorders, Program Announcement

Are certain drug and psychological treatment combinations more effective than others?

Are psychological and pharmacological treatments interactive or addictive in their effects? Can medication increase or decrease a child's response to psychological intervention?

Are the mental health effects of cumulative risk factors interactive or additive with other risk factors? Are there certain combinations of risk factors which mediate much greater effects than others?

Are there particular disorders for which either psychosocial or pharmacological treatments are specifically effective?

At what stage of an adolescent's illness are various treatments more effective?

Can the presence of specific symptoms indicate which children are likely to respond to drug therapy?

Conduct meta-analyses to integrate the findings of previous treatment studies.

How are the effects of child abuse or neglect, disturbed family relationships, and parental mental illness mediated?

How do developmental, biologic, and contextual factors alter an adolescent's response to treatment?

How does the presence of multiple disorders affect response to treatment?

Investigate the types and frequencies of mental health problems in special populations (homeless children, minorities, children of divorced or single parents, rural children and adolescents, and children from families with criminal, mentally disordered or substance abusing parents/siblings).

Epidemiological studies of the mental health of children and adolescents living in abusive situations, areas of high violence, transient housing situations, or in juvenile justice correctional facilities, and/or social service placements should be conducted.

Is a particular sequence of the various types of therapy most desirable?

Studies are needed of the prevalence, incidence, and risk factors for specific mental disorders, as well as problem behaviors below traditional diagnostic thresholds (suicidal behaviors, adjustment reactions, aggressive and violent behaviors, and other conditions).

To what extent are developmental and family assessments required in the measurement of treatment and prevention outcomes?

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1991C CONT.)

National Institute of Mental Health:
Implementation of the National Plan for Research on Child and Adolescent Mental Disorders, Program Announcement

What are effective treatment models for abused and neglected adolescents?

What are the causes, correlates, and mental health consequences of antisocial behavior in adolescents, and how can adverse outcomes be prevented?

What are the effects of persistent psychological adversity, such as disorganized and inadequate schooling on the development of mental disorders and associated mental health problems?

What are the effects of treatments commonly used in clinical practice (individual, family therapy, group therapy, dynamic therapy, and relationship therapy)?

What are the relationships between psychosocial and biologic variables and how are they mediated? Are there certain critical periods when environmental risk factors are more likely to significantly alter biological thresholds and set points? At which time points are such alterations of greatest concern and which developmental lines are most likely to be affected?

What factors influence judgments made by clinicians and teachers concerning emotional behavioral problems in adolescents and why is level of agreement among these informants so low?

What is the efficacy of research-based treatment approaches when applied to clinical settings?

What tools and instruments are needed to accurately measure the outcomes of mental health treatments?

Which developmental, psychological, and social factors increase the propensity of some adolescents to engage in behaviors which threaten health and life?

Which techniques and assessment strategies will allow better discrimination between adolescents with time-limited, situation-specific problems from those who will show persistent, significant psychosocial impairments and mental disorders?

Which treatment models are most effective for youth in community and juvenile correctional settings who evidence antisocial and aggressive behavior?

Which treatment variables are associated with successful long-term outcomes? Which treatment conditions are associated with differential impact and differential outcomes?

Which, if any, interpersonal and family variables are associated with adaptive outcomes in children who are at risk for developing mental disorders or have already developed a mental disorder? Which intra- and interpersonal factors can protect children and adolescents from persistent psychosocial adversity? Can these factors be learned or taught?

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1993A)

National Institute of Mental Health:
American Indian, Alaska Native, and Native Hawaiian Mental Health Research, Program Announcement

Study individual and family coping styles and their association with the development of behavior problems and depression in American Indian, Alaska Native, and Native Hawaiian children and adolescents.

Study the prevalence of physical and sexual abuse of women, children, and adolescents (among American Indian, Alaska Native, and Native Hawaiian adolescents).

Study the role of physical and sexual abuse in suicidal behavior among American Indian, Alaska Native, and Native Hawaiian adolescents.

(NIMH, 1993B)

National Institute of Mental Health:
Child and Adolescent Development and Psychopathology Research Centers, Program Announcement

Develop research centers whose main goal is to bridge basic science, state-of-the-art methodologies, and clinical research approaches, in order to address pressing child psychopathology-related research problems that cannot be adequately addressed by less integrated research strategies.

Expand the Nation's scientific capacity to conduct research on child and adolescent mental disorders by fostering the evolution of Child and Adolescent Development and Psychopathology Research Centers (CADPRC).

(NIMH, 1993C)

National Institute of Mental Health:
The Prevention of Mental Disorders: A National Research Agenda

Apply knowledge from multiple disciplines including: biology; epidemiology; psychiatry; psychology; anthropology; and sociology, to inform measurement protocols and facilitate an understanding of the trajectory of mental disorders and their prevention.

Apply measurement models that maximize the opportunity to observe the developmental course of disorder and its precursors, using a wide array of biological, psychological, and social indicators.

Approach preventive trials with a sensitivity to ethical issues as well as a concern for the privacy, autonomy, and well-being of individual participants.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1993C CONT.)

National Institute of Mental Health:
The Prevention of Mental Disorders: A National Research Agenda

Base experimental trials of interventions on well-developed theories of risk.

Conduct longitudinal studies examining the direct and interactive roles of both social and bio-genetic risk and protective factors in the emergence of psychiatric disorders at various points along the life course.

Consider large-scale randomized trials, embedded in epidemiologically-based community samples studied over time, as having the highest likelihood of yielding important scientific results.

Design preventive interventions to reach those adolescents at high risk.

Design prevention trials to reduce risk factors before they become entrenched.

Design preventive trials to test theories about the nature and development of mental disorders.

Develop models of prevention involving multiple interventions.

Devise recruitment strategies for preventive interventions carefully, with a view toward maximizing community participation in both data collection and intervention activities.

Emphasize life span development studies.

Employ those sampling, recruitment, and analytical strategies likely to minimize attrition and maximize research participation, and apply appropriate statistical weighting procedures to eliminate biasing effects on research results of non-participation.

Ensure that prevention trials are guided by sound developmental theory and that the resulting findings, in turn, are used to enrich that theory.

Evaluate risk and outcome at various points along the lifespan.

Evaluate the utility of developmental models for understanding the etiology and prevention of mental disorders.

Expand support for systematic assessment of differences among communities and social processes within communities, and determine how these variables influence risk and protective factors and responses to preventive interventions.

Expand support for the study of the impact of prevention trials on the social context of individual participants.

Expand the pursuit of epidemiological studies of developmental paths toward mental health and mental health disorders that assess the roles and relationships among biological, psychological, social, and behavioral risk and protective factors.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1993C CONT.)

National Institute of Mental Health:
The Prevention of Mental Disorders: A National Research Agenda

Extend funding for studies of new analytic strategies essential for the rigorous assessment of the outcomes of longitudinal risk-factor studies and experimental prevention trials.

In assessing the promise of new analytic methods, focus attention on underlying assumptions. In designing preventive efforts, consider epidemiological evidence regarding the age of onset of a particular disorder, thus permitting interventions to be performed before the most rapid rise in incidence rates occur for a particular disorder, or combination of disorders.

In order to facilitate and organize scientific work in the prevention of mental disorders, the following should be done: convene a new Advisory Committee for Prevention Science; develop mechanisms for updating the grant review process; expand the role and number of Preventive Intervention Research Centers; develop mechanisms for increased collaboration across the NIH research institutes, the new Substance Abuse and Mental Health Services Administration and other federal agencies; establish appropriate administrative leadership for the support and coordination of prevention programs; increase support for new media and methods of scientific exchange among prevention researchers; provide new and increased support for mechanisms of continuous assessment and rapid dissemination of information about all aspects of prevention science, both substantive and methodological (mechanisms include a national or international prevention research consortium, annual National Prevention Research Institutes, and the strengthening of annual progress reports by semi-annual meetings), and furnish new and increased support for prevention research networks, and multisite and multidisciplinary research programs.

In outcome studies, use both categorical and continuous approaches to the measurement of clinical disorders, particularly as they complement each other and broaden understanding of the nature of mental disorder.

Include culturally diverse populations and include both genders.

Include in measures of outcome a broad range of assessments of developmental and psychosocial functioning as well as specific measures of symptom expression.

Increase efforts involving the use of multiple agents, methods and settings in assessment strategies for preventive trials.

Increase focus on risk factors common to many disorders.

Increase funding for the use and further development of qualitative research methods, including: 1) the appropriate utilization of qualitative methodologies in prevention trials; 2) basic research on qualitative methodologies and their relationship to quantitative methods; and 3) intensive qualitative studies of understudied high risk populations.

Increase research on the relationship of common characteristics to community base building and initiatives to enhance pre-intervention base building in communities in which prevention trials will be done.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1993C CONT.)

National Institute of Mental Health:
The Prevention of Mental Disorders: A National Research Agenda

Increase support for new media and methods of scientific exchange among prevention researchers. Investigate strengths both within the individual and the environment that serve as protective factors.

Maintain efforts to ensure the strength and integrity of preventive interventions, and to systematically monitor them.

Make certain that preventive approaches are culturally appropriate--not only out of respect for diversity, but also to maximize the success of a given intervention.

Precede large scale preventive trials with both basic studies of risk and protective factors and pilot tests of interventions.

Pursue randomized controlled trials as an optimal method of testing preventive strategies.

Seek opportunities to use epidemiologically-defined populations that are broadly representative of the community and population that are, over time, at risk for mental disorders.

Significantly expand investigations of universal and targeted interventions, and of the complementary links between them and treatment services.

Strengthen support for the study of methods to maximize participation of high risk individuals in prevention trials and in post-evaluation prevention programs.

Stress developmental processes rather than single, static variables.

Support research that links one stage of prevention research to the next.

Study the stages and transitions across the life span.

Test the validity of etiological theories of mental disorders in diverse populations.

The training of prevention scientists should be strengthened by the following: enlarge support for both pre and post-doctoral training; strengthen training in ethical issues; increase support for mid-career training; strengthen the capacities of investigators to devise promising research proposals; and expand support for the training of minority researchers.

Use multiple, complementary sampling strategies instead of focusing prematurely on a single, standard sampling model.

Use statistical methods to estimate intervention impact and to test hypotheses concerning causal factors in the development of disorders.

When variations in the expression of symptoms of mental disorder are being studied as an important outcome of preventive research, use measures providing a clear operational definition of symptoms and measure them independent of short term direct effects on other intervention outcomes.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NIMH, 1993D)

National Institute of Mental Health:
Research on Emergency Mental Health Services for Children and Adolescents, Program Announcement

Encourage research on emergency mental health services for children and adolescents who are in need of acute psychiatric and/or psychosocial intervention because they: have suffered a physical injury that may be associated with an antecedent emotional disturbance; have other physical conditions (such as AIDS or drug abuse) or physical trauma that place them and/or their families at risk for mental health problems; are the victims of or witnesses to violence; are the victims of physical and/or sexual abuse; have attempted suicide; or are victims of larger scale catastrophes, such as natural disasters, technological emergencies, accidents, or riots.

Research is needed on the effectiveness of emergency mental health interventions, (based either in emergency rooms or in detention facilities for juveniles), for children and adolescents who attempt suicide or display symptoms of post-traumatic stress disorder.

Research is needed on the effectiveness of emergency mental health services for children and adolescents exposed to natural disaster, technological hazards, accidents, riots, or other large-scale traumatic events.

Research is needed on the effectiveness of mental health emergency services provided to children and adolescents who: have been abusing illicit drugs and/or alcohol; are coping with physical trauma; have experienced sexual and/or physical abuse; are victims of violence, including youth who have participated in the violence; or are experiencing psychiatric or psychosomatic symptoms as a result of witnessing violence.

Research is needed on the effectiveness of mental health services for children and adolescents and/or their families who are experiencing acute medical crises such as those associated with diabetes, cancer, or hemophilia, or who have suffered disabling or disfiguring injuries, such as burns, loss of limbs, or spinal cord injury.

Research is needed on the effectiveness of mental health services for children and adolescents with AIDS and/or their families, as well as for families who go to emergency rooms seeking services for medical crises associated with the HIV infection.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NINR, 1993)

National Institute of Nursing Research:
Health Promotion for Older Children and Adolescents

Assess the roles of gender, culture, and ethnicity in interpreting the meaning of health among older children and adolescents.

Assess the extent to which nurses' perceptions of healthy lifestyles interface with youths' perceptions. Identify the implications for health provider strategies.

Compare the health behavior of youth in different community settings. Identify and assess characteristics that promote or constrain health promoting activities, i.e., parks, recreational facilities, libraries.

Conduct multicultural studies to contrast and compare responses of adolescents to stressful and potentially stressful family transitions (divorce, unemployment, changes in residence/school), and to determine how such transitions affect development. Identify coping strategies and environmental contexts in which adolescents deal successfully with these transitions.

Design and test developmentally appropriate health promotion interventions for youth that involve regular, periodic contact with health providers. Evaluate the interventions' effectiveness in promoting long-term maintenance of a variety of health behaviors. Explore strategies for maximizing helpful factors and minimizing unhelpful factors.

Design longitudinal studies that examine the effects of experiences and behavior on pubertal timing and tempo.

Design longitudinal studies that use a biopsychosocial framework to assess developmental changes in health beliefs/behaviors, focusing on the effects of biological, cognitive, emotional, and social transitions.

Design studies to explain how emotions preceding adolescence influence how adolescents cope with these changes. Examine the influence of peer, family, and community contexts and influence on emotional stability and change across biological, cognitive and social transitions.

Determine how community characteristics (parks, recreational facilities, libraries) affect balance of primary, secondary and tertiary health services that are needed, and examine contributions of nurses given different balances.

Determine how current technologies (i.e.,computer assisted programs with self-learning modules) can best be used to help with health provider efforts, taking into account diverse settings and populations.

Determine how emotions enhance/impede unhealthy/healthy behaviors, emphasizing the role of positive emotions in avoiding unhealthy risk-taking behavior. Assess differences in emotions related to enhancing health-promoting behaviors between and within gender and ethnic sub-groups.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NINR, 1993 CONT.)

National Institute of Nursing Research:
Health Promotion for Older Children and Adolescents

Determine how parents' efforts to support and mentor their children at different developmental stages affects development of autonomy and health behaviors. Explore how such efforts (by parents) increase or decrease the positive and negative influences of peers and significant non-family members.

Develop and test alternative theoretically driven health promotion interventions aimed at individuals and communities to maximize the positive impact of peers and minimize their negative impact (taking into account the characteristics of youth, their close friendships, peer group norms, and community characteristics).

Develop and test culturally appropriate, innovative health provider interventions that incorporate both educational and contextual components in outreach settings and focus on collaboration of nurses with other health professionals.

Develop and test culturally-sensitive health promotion and disease prevention interventions in various settings among diverse populations of youth, taking into account changes in the beliefs, values, and norms associated with school transitions.

Develop and test intervention strategies aimed at individual groups and communities: to build developmentally appropriate social competence, responsibility for own health, sense of self, autonomy and empowerment; to promote healthy stress management; and to foster conflict resolutions and violence reduction among diverse populations of youth.

Develop and test intervention strategies that build multidimensional peer and family support for healthful lifestyles.

Develop and test model programs that promote experimentation with healthy alternative lifestyles at critical transition points when adolescents become more independent and responsible.

Develop culturally sensitive instruments that consider language effects, acculturation, and generational effects.

Develop or improve measures to assess stages of cognitive development.

Examine differences and similarities in the effect of school transitions on health attitudes, motivations and behaviors of youths from different economic, racial, and ethnic backgrounds.

Examine emotions as mediators and moderators of the relationship between biological transitions and health, focusing on how puberty relationships and neurobiological transitions affect emotions and health.

Examine the effects of changes in cognitive processing and of contextual influences in practical decision-making involving health-compromising and health-promoting behaviors.

Examine the effects of increases in puberty related hormones on health promoting attitudes, motivations, and behaviors.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NINR, 1993 CONT.)

National Institute of Nursing Research:
Health Promotion for Older Children and Adolescents

Examine the interactive effects of behavioral and biological processes, including the timing of development and social transitions, on health actions and outcomes.

Examine the special constraints and opportunities surrounding the provision of health care to rural youth, and explore strategies for addressing these constraints and building on positive alternatives available to rural youth.

Explore gender and other population differences in the timing and tempo of cognitive development, and the effects of (timing/tempo) differences on health beliefs and behaviors.

Explore strategies for promoting healthy environments for youth and families, particularly in communities with high rates of violence and vulnerable youth.

Explore the health and non-health reasons that youth and their peers engage in health compromising behaviors, and identify the multiple mechanisms through which peers influence health-related behavior.

Explore the origins of health cognitions and health-related motivations; explore the relationship between meanings of health across stages of cognitive development.

Identify culture-specific personal and environmental influences on the health behavior of youth, including those associated with school transitions that affect health behavior.

Identify family strategies and community factors that maximize the effectiveness of health provider interventions during developmental transitions (i.e.; test the effectiveness of health provider interventions prior to and after school transitions). Explore which interventions are needed to promote healthy development.

Identify intervention strategies that best prepare youth to adjust to, and utilize the growth potential of stressful and potentially stressful family transitions.

Identify the most effective approaches for enhancing the skills of health professionals in providing health prevention services to adolescents.

Investigate approaches used by families from different cultural and community contexts to managing information that affects the healthy development of their pre-adolescent and adolescent children.

Investigate community characteristics that help determine peer group membership, and their influence on health enhancing behaviors.

Investigate family, school, and community strategies for adopting/maintaining health promoting behaviors among youth in rural and urban settings. Especially pay attention to highly vulnerable youth who are economically disadvantaged, homeless, school dropouts, members of racial/ethnic minorities, gay or lesbian, alienated, or chronically ill or disabled.

Investigate individual characteristics and styles (e.g., sensation seeking) that help determine peer group membership and their influence on health-enhancing behaviors.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NINR, 1993 CONT.)

National Institute of Nursing Research:
Health Promotion for Older Children and Adolescents

Investigate patterns of change across school transitions focusing on specific domains of self-perception such as social and physical competence.

Investigate the determinants of continuity and change in self-esteem as a multidimensional construct, and explore the interrelationships among dimensions of self-esteem and health behavior in diverse populations of children and adolescents.

Investigate the development of adaptive and maladaptive risk-taking behaviors and their relation to family and cultural norms, socioeconomic status, age, developmental differences, individual and societal expectations, meaning of risk behavior to youth, and the covariance among risk behaviors and individual developmental trajectories.

Investigate the extent to which the characteristics of providers, including communication styles, behavior, education, and experience affect and best promote health provider efforts.

Investigate the genetic and environmental influences on biobehavioral correlates of health and of continuity and change in health-related developmental processes in late childhood and adolescence.

Investigate the influence of work experience on adolescent psychosocial development.

Investigate the interactive effects of cognitive abilities and pubertal development on retention and application of health information and on psychological and social adjustment in late childhood and adolescence.

Investigate the linkages between health perceptions of youth and health promoting behavior.

Test the effectiveness of conceptual models of community participation in health prevention interventions focusing on diverse populations of youth.

Test the effectiveness of conceptual models of social skill development, problem-solving, and decision-making in assisting youth from different cultural and community contexts in the development and maintainence of health promoting behaviors.

Test the effectiveness of health provider interventions tailored to the stages of cognitive development.

Test the effectiveness of incorporating health provider interventions into traditional medical sites (emergency facilities, school-linked health centers, home health and other primary care sites including HMOs, managed care organizations and private care practices).

Test the utility and effectiveness of social skills development, problem-solving, and decision making models in diverse adolescent populations in assisting youth from different cultural and community contexts to develop and maintain health promoting behavior.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1987)

National Research Council:
Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing

Conduct longitudinal studies to examine support and coping mechanisms of families with adolescent mothers. Focus on such issues as family support, parent education, child support, pediatric healthcare, childcare, and the contribution of single parenting to negative outcomes. Develop strategies for ameliorating negative consequences of single parenting.

Conduct longitudinal studies to look at the roles of young fathers, regardless of their involvement with their mother.

Conduct research to understand single parent families, parent-child communication, and the impact of other family members on adolescent sexual decision-making.

Continue support of a broad-based research program on adolescent sexuality and fertility to enhance understanding of the causes and consequences of sexual behaviors, and to inform policy and program development.

Cooperate in designing, implementing and evaluating experimental approaches for pregnancy prevention among high-risk adolescents.

Cooperate in designing, implementing and evaluating experimental approaches for improving the well-being of teenage parents and their children.

Develop experimental approaches to help single mothers become economically self-sufficient and to encourage young fathers to become financially responsible and actively involved in their children's lives.

Develop experimental programs to create positive economic incentives for staying in school and avoiding welfare dependence.

Develop measures of the 'wantedness' and 'intendedness' of pregnancies.

Develop measures to assess exposure to support programs.

Develop more adequate measures of SES among adolescents given the limitations of the information on income and economic well-being in many datasets.

Develop new contraceptive technologies that are more appropriate to the needs of adolescents.

Develop new instruments that can be used in a variety of settings. These instruments should take reading level into account. New measures should be developed for: developmental age; "wantedness"/"intendedness" of pregnancies; and for reporting of exposure to programs.

Develop programs aimed at delaying the initiation of sexual intercourse. These programs should provide birth control information to young teens without making it difficult to choose abstinence.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1987 CONT.)

National Research Council:
Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing

Develop strategies to correct for underreporting of pregnancy and abortion in surveys of women.

Do race differences in patterns of sexual and fertility behavior reflect deep-seated subgroup values or more transient attitudinal adjustments to external circumstances?

Examine sexuality in the broader context of normal and abnormal adolescent development and in terms of interrelated factors such as educational experiences and expectations.

Explore ways of including abortion and adoption information and information on community and local population characteristics (unemployment rates, median income, racial and ethnic composition) in the National Survey on Family Growth.

How much do perceptions of limited social and economic opportunities affect male and female attitudes about pregnancy and childbearing?

Improve Vital Stats data by: including marital status in Vital Stats data in all states; linking birth and death data sets; improving data collection on racial and ethnic sub-groups for linkage; adding data useful for outcomes assessments to Vital Stats (on smoking, weight and height, insurance coverage) and adding social security numbers to Vital Stats so that births can be linked to repeat pregnancy outcomes.

Include data on fertility within data collection for substance abuse and education, in order to facilitate interdisciplinary studies of the common sources of variation in risk behavior.

Include more complete data on sexual and fertility behavior of males, adult and adolescent (HANES).

Include data on unmarried women under age 18 in surveys such as the Current Pop Survey.

Include evaluation to measure cost and effectiveness of service programs as an essential component of intervention strategies.

Include measures of marriage and family formation expectations in Youth Surveys.

Include non-married mothers in any follow-up to the National Natality Surveys.

Include the fertility endpoints that were used in the 1970 Census in future censuses.

Increase the study of health and health-related behavior associated with sexuality and fertility, paying special attention to physical and psychological maturity and mental health conditions in adolescents.

Maintain and strengthen data systems that monitor fertility behavior, including information on trends and correlates of adolescent sexual activity, contraceptive use, pregnancy, abortion, and childbearing.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1987 CONT.)

National Research Council:
Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing

Monitor more closely the use of family planning services in non-private clinics and public agency adoptions. Consider the development of a national adoption information system.

More routine data collection is needed on: marriage and family formation expectations; sexual activity; contraceptive use; female pregnancy; abortion; and childbearing. Data should be collected from male, female, majority and ethnic minority adolescents.

Need adequate sample size studies which: include information for demonstration; take cultural factors into account; develop innovative strategies to maintain representativeness of samples; identify appropriate control groups; minimize attrition (large N and follow-up); clearly specify relationship between independent, dependent, and intervening variables; take into account local changes; look at specific as well as overall program components; include unit cost information for service provision as well as cost savings from success; use appropriate follow-up to assess the effectiveness.

Adequate support must be set aside for evaluation research at the Federal and state level.

Study the influence of income supports for young women on the reproductive decisions of young men, especially low-income black men.

Study the effect of parental consent requirements, child support enforcement programs, and grandparent liability provisions on male and female reproductive decisions, family relations, and assistance or well being of mothers and their children.

Study the influence of race and socioeconomic status on sexuality and fertility decisions.

Study the influence of the media on adolescent reproductive and fertility decisions, and the potential of media to promote positive outcomes.

Study racial/cultural differences in values, and the extent to which these differences stem from chronic economic difficulties.

Study the relationship between chronic economic disadvantage and attitude regarding sexuality, marriage and family formation.

Study the relationship between education experiences and pregnancy, including information regarding academic achievement, educational attainment, and male fertility behavior.

Study very young teens and adolescent males of all ages.

Study the coping strategies of teenage families. Determine which families cope most successfully and which are at the highest risk for dysfunction.

(NRC, 1987 CONT.)

National Research Council:
Risking the Future: Adolescent Sexuality, Pregnancy, and Childbearing

Supplement large scale studies with small intensive ones that look at selected communities and population sub-groups (racial and ethnic groups, younger adolescents).

Take a more active role in designing and implementing evaluation studies in residential communities.

Use a multidimensional strategy for capturing data within varying, using such instruments as large-scale surveys, federal and state administration reporting systems, and service providers.

Use OMB categories for race/ethnicity as a minimum in collecting data.

(NRC, 1993A)

National Research Council:
Losing Generations: Adolescents in High-Risk Settings

Assess the effects of discrimination on neighborhoods and on the lives of families and adolescents. Attempt to identify the independent and interactive influences of class, race, gender, and ethnicity on adolescent development.

Broaden research that looks at the effects of settings and services on individuals and communities, rather than on specific conditions.

Conduct national comparisons of policies and practices that are relevant to school, family and neighborhood.

Data collection must be organized to produce findings according to gender, age, race, ethnicity, and socioeconomic status.

Design studies that adequately sample for race and ethnicity, and allow for disaggregation into smaller age sub-groups.

Determine what types of programs can counteract the most damaging effects of single parenthood on children and adolescents.

Develop alternatives to conviction/incarceration, including school and employment programs, that can affect later developmental trajectories.

Develop strategies to adequately monitor adolescents from low-income families.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1993A CONT.)

National Research Council:
Losing Generations: Adolescents in High-Risk Settings

Do students in School-Linked Health Centers enjoy better health than students who depend on other types of services?

Encourage research on developing initiatives that explicitly seek to change the contexts of adolescent development, such as comprehensive programs and community-wide interventions.

Encourage research protocols that capture individual differences simultaneously with assessments of social contexts and daily settings.

Enhance the adolescent health research agenda with a review of how the federal government is organized to deal with the range of issues affecting adolescents that have been raised in numerous settings.

Evaluate alternatives to traditional school organization and instructional practices, focusing on methods of improving the climate of schools for all students, with special attention to low achievers and minorities.

Evaluate specific employment and training programs in the context of other community resources, including but not limited to schools.

Evaluate specific interventions aimed at improving the transition from school to work, in the context of the overall education system.

Evaluate the interactive effects of multicomponent, multiagency intervention programs over long enough periods to confirm or deny their validity.

Examine how school-to-work programs can be more comprehensive, address a broader range of adolescent needs and competencies, and provide services that offer continuity throughout the period of adolescence.

Examine the qualities of health care settings (location, staff attributes, range of services provided) that are most likely to engage adolescents and sustain participation.

Examine the relative efficacy of early vs. later intervention.

Examine the relative efficacy of school vs. community-based programs.

Examine the manner in which the juvenile justice system seems to exacerbate racial, ethnic and socioeconomic variations in life chances.

Explore models of State government reform to identify successful approaches to assisting communities in developing coordinated systems for families and youths.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1993A CONT.)

National Research Council:
Losing Generations: Adolescents in High-Risk Settings

Get inside the "black box" of families, communities, schools, health care, and community-based programs to identify cross-cutting elements that support healthy adolescent development.

Seek to understand of the various settings in which everyday adolescent development takes place (including families, neighborhoods, schools and community organizations and programs). Stress the interactive effects of multiple setting, in order to capture the complexity of the social environment.

Identify and evaluate strategies for strengthening families, especially those suffering from financial hardship and emotional stress.

Identify the elements of a healthy functioning neighborhood.

Investigate risk factors, protective factors, and the interaction between the two. Conduct these investigations at both the individual and the social level, in order to provide the fullest understanding of healthy adolescent development.

Map those individual differences that are logical reflections of socialization in critical settings (i.e.,family, school, neighborhood).

Outcomes research should: be developed in tandem with the design of service programs; assess the capability of an intervention to achieve its stated objectives; include direct and indirect objectives; include appropriate measures of the behaviors that the program is aimed at developing/modifying.

Research on adolescent development should pay special attention to those groups that have been largely ignored in the past: those from families with low-incomes; members of racial and ethnic minorities; homeless youth; and persons with physical or emotional disabilities.

Research and evaluation studies should use multiple methods, be multidisciplinary and longitudinal, and incorporate the unique advantages of qualitative and ethnographic methods for grasping the meaning of adolescent behavior in everyday situations.

Research is needed to better document the effects of managed care systems on adolescents, especially in terms of access.

Research is needed to document the relative efficacy of combined services versus targeted programs.

Research is needed to guide educators towards alternatives to traditional practices such as grade retention, rigid forms of tracking, suspension, expulsion.

Research must move beyond the isolated assessment of single settings or interventions; methodologies must be developed that examine the effects of a variety of influences on adolescents.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1993A CONT.)

National Research Council:
Losing Generations: Adolescents in High-Risk Settings

Research should shift its focus to those young people most at risk for poor transition to adulthood and explicitly consider effects of gender, race and ethnicity on adolescents.

Significantly expand investigations of universal and targeted interventions, and of the complementary links between them and treatment services.

Study how families manage adversity or are overwhelmed by it, and ways that adolescents can or cannot be insulated from it.

Study how structures or organizations of risky behavior develop; what factors in the individual or context promote or prevent harmful results from these behaviors and how one can predict the link between risky behaviors and subsequent harm.

Study the translation of demonstration projects into full-scale implementation.

Study the effectiveness of family support programs (i.e.,for case management programs), and establish the optimum amount of time a family requires from a case manager.

Study the extent to which adolescents need mental health services, and for the most effective prevention interventions, and treatments.

Study the process of change in schools (as well as in neighborhoods, organizations, and programs) to identify mechanisms that underlie successful replication of good practice, with explicit attention to technical, normative, and political barriers to change.

Conduct studies to determine the most important components of primary care for adolescents, and examine the manner in which adolescent primary care differs from that targeted at other age groups.

Conduct studies to determine which processes sustain interest in attachment to schools and which compromise this attachment (i.e.,school resources, tracking, school climate, school-family relations, fear, and violence).

Support research on social contexts of adolescents in contemporary US society, such as family, school, neighborhood, and the systems of health care, welfare, and justice.

Support research that explores alternatives to families (i.e.,group homes or dormitories for adolescents who cannot live at home).

Support research that explores what kinds of schools work best.

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1993A CONT.)

National Research Council:
Losing Generations: Adolescents in High-Risk Settings

Support research to determine the consequences of living in impoverished urban neighborhoods. How do these circumstances influence adolescent growth and development? Examine how the physical conditions of such settings (the anomie and dangers of high-rise housing, the decrepitude of housing stock, abandoned buildings, and littered streets) and their social condition (prevalence of gangs and organized drug markets, lack of normative standards and informal social controls) impact the young people who live in them.

Systematic efforts are needed to assess the adolescent population over time.

Trace the mechanisms by which poverty (low income, unemployment and underemployment) and changes in family structure (single-parent households, two-parent households with both parents working) influence family functioning.

(NRC, 1993B)

National Research Council:
Preventing Drug Abuse: What Do We Know?

We need to examine studies of prevention interventions that employ much more tightly defined contents and more careful scientific designs than appear typical among the types of studies that carry so much weight in some of the meta-analyses.

A clear majority of the research published as evaluations of the effectiveness of preventive interventions is methodologically weak. Corrections of their weaknesses is not a matter of applying rigid formulae. It requires patient commitment to attracting quality researchers to the field; applying stringent requirements to publications and research grants, and urging other research sponsors, collaborators (such as school administrators), reviewers, and publication editors to attend to them; developing and supporting appropriate research training; and attending to socioenvironmental aspects and data quality control elements of proposed research.

While attrition rates are often reported, the analyses usually show demographic and pretest differences on gross drug use measures between those who remained in the studies and those who dropped out of the study by treatment condition. Very few researchers examine or report such differences on the major predictive or mediating variables. It is essential that panel studies meet attrition standards that amount to the state of the art in survey research.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1993C)

National Research Council:
Understanding Child Abuse and Neglect

A consensus on research definitions needs to be established for each form of child abuse and neglect.

Epidemiological studies on the incidence and prevalence of child abuse and neglect should be encouraged, as should the inclusion of research questions about child maltreatment in other national surveys.

Federal agencies concerned with child maltreatment research need to formulate a national research plan and provide leadership for child maltreatment research.

Governmental leadership is needed to sustain and improve the capabilities of the available pool of researchers who can contribute to studies of child maltreatment. National leadership is also required to foster the integration of research from related fields that offer significant insights into the causes, consequences, treatment, and prevention of child maltreatment.

High-quality evaluation studies of existing program and service interventions are needed to develop criteria and instrumentation that can help identify promising developments in the delivery of treatment and prevention services.

Recognizing that fiscal pressures and budgetary deficits diminish prospects for significant increases in research budgets generally, special efforts are required to find new funds for research on child abuse and neglect and to encourage research collaboration and data collection in related fields.

Reliable and valid clinical-diagnostic and research instruments for the measurement of child maltreatment are needed to operationalize the definitions discussed under Research Priority 1 (above).

Research is needed to clarify the effects of multiple forms of child victimization that often occur in the social context of child maltreatment. The consequences of child maltreatment may be significantly influenced by a combination of risk factors that have not been well described or understood.

Research is needed to identify organizational innovations that can improve the process by which child maltreatment findings are disseminated to practitioners and policy makers. The role of state agencies in supporting, disseminating, and utilizing empirical research deserves particular attention.

Research on the operation of the existing child protection and child welfare systems is urgently needed. Factors that influence different aspects of case handling decisions and the delivery and use of individual and family services require attention. The strengths and limitation of alternatives to existing institutional arrangements need to be described and evaluated.

Research that assesses the outcomes of specific and combined types of maltreatment should be supported.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(NRC, 1993A CONT.)

National Research Council:
Losing Generations: Adolescents in High-Risk Settings

Research that clarifies the common and divergent pathways in the etiologies of different forms of child maltreatment for diverse populations is essential to improve the quality of future prevention and intervention efforts.

Research that examines the processes by which individual, family, community, and social factors interact will improve understanding of the causes of child maltreatment and should be supported.

Researchers should design methods, procedures, and resources that can resolve ethical problems associated with: recruitment of research subjects; informed consent; privacy, confidentiality, and autonomy; assignment of experimental and control research participants; and debriefings.

Service system research on existing state data systems should be conducted to improve the quality of child maltreatment research information as well as to foster improved service interventions.

Studies of similarities and differences in the etiologies and consequences of various forms of maltreatment across various cultural and ethnic groups are necessary.

The role of the media in reinforcing or questioning social norms relevant to child maltreatment needs further study.

(ONAP, 1996)

Office of National AIDS Policy:
Youth and HIV/AIDS: An American Agenda

Adolescent-specific biomedical and behavioral research should be increased to enhance our knowledge of the progress of HIV disease in adolescents and of effective AIDS prevention approaches.

In releasing data from clinical trials, NIH and FDA should include specific data related to adolescents. In those cases in which the number of adolescents participating in a trial is too small, anecdotal data should be released on a limited basis.

Innovative, creative (AIDS) prevention efforts aimed at young people must be encouraged, adequately funded, and evaluated, and, when found to be effective, broadly disseminated.

Young people, parents, schools and communities must be integral partners in developing, delivering, and evaluating HIV prevention approaches for adolescents.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(HP2000, 1993)

Public Health Services, Department of Health and Human Services:
Healthy People 2000: National Health Promotion and Disease Prevention

Develop a surveillance system to assess unintentional injuries.

Develop and improve the surveillance of non-fatal events and behaviors, in order to more accurately assess the magnitude of such problems.

Encourage studies that address the full range of biopsychosocial risks and preventive factors regarding alcohol use.

Expand the knowledge base on tobacco use among adolescents.

Identify the extent of sexual abuse and coercion among adolescents.

Increase the number of community assessments focused on planning and conducting adolescent health promoting projects.

Support preventive research to test the effects of previous strategies for developing and maintaining behavioral skills.

Support research on the causes and consequences of adolescent sexual behavior, pregnancy, and parenting.

Sophisticated studies are needed of the effectiveness of combined treatments.

Systematic research is needed on the causes and determinants of mental disorders in children and adolescents, focusing on those with the greatest burden of suffering and those with high prevalence (i.e.,neuropsychiatric disorders such as autism and Tourette's disorder, attention-deficit hyperactivity disorder, depressive and anxiety disorders, and conduct disorders, particularity those characterized by violent antisocial acts).

A theoretical orientation/conceptual framework is needed for mental disorders affecting adolescents. This framework must conceptualize the interplay between biological vulnerability to a mental disorder and specific psychological and social circumstances.

Researchers must characterize the natural histories of the mental, behavioral, and developmental disorders of children and adolescents. This includes examining the evolution of symptoms and vulnerabilities, sensitive periods during development, and external contributions.

Need to develop interventions for children at high risk for specific disorders, and providing them with interventions aimed at helping them negotiate crises more effectively.

Research training must be enriched in all the disciplines involved in the study of child and adolescent health mental disorders.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(HP2000, 1993 CONT.)

Public Health Services, Department of Health and Human Services:
Healthy People 2000: National Health Promotion and Disease Prevention

Researchers must evaluate the family's role relative to child dysfunction.

Researchers must improve efforts to assess issues related to the costs of childhood mental disorders and to their treatments.

Support and incentives must be providedat each stage of career development, including research training and career stabilization in order to achieve an expanded pool of research scientists.

Record, organize and integrate information to strengthen the link between research and ongoing clinical activity; promote shared resources among widely scattered researchers; and develop database systems for use in clinical services.

Recruit more researchers from minority groups in order to increase sensitivity to cultural diversity and community needs.

Remove impediments to research.

Sponsor summer courses for research faculty.

Develop means of conceptualizing the interplay between a biological vulnerability to a mental disorder and psychosocial circumstances (bearing in mind developmental changes).

Study the impact of drugs on the developing nervous system.

Study the impact on children of the contexts in which they function, and the relation of these contexts to clinical disorders.

Study the provision of mental health services in primary care facilities and by pediatricians, in institutional settings associated with social welfare and juvenile justice systems, and in public schools and other educational programs.

Support efforts to develop an accurate and up-to-date community prevalence database on disorders (child and adolescent mental health disorders).

Support research centers in child psychiatric Epidemiology.

Test the validity of behavioral tests and assessment instruments for minority groups.

Using existing data about the effects of treatment (i.e.,data from clinical settings).

Study the causes and determinants of behavioral disorders in children with mental retardation and/or a history of brain damage.

Study the causes of mental disorders found in disadvantaged inner-city children.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(SAM, 1995)

Society for Adolescent Medicine:
Healthy People 2000: National Health Promotion and Disease Prevention

Educational programs should be available to adolescent health researchers regarding the unique ethical and legal issues of adolescent health research and the specific procedures required by the Office for the Protection from Research Risks.

Existing federal and stateregulations and other provisions for protecting the confidentiality of data must be reviewed in light on increasing sophistication of data retrieval technology.

Research should be conducted to further clarify and define stages or thresholds of competence, judgment, and capacity in order to improve our understanding of the adolescent's capacity to consent to research.

Researchers who conduct community intervention research should recognize that they have an obligation work with the community to help realize the benefits of research.

The federal government should promote and fund adolescent health research, ensure appropriate inclusion of adolescents in health research and prevent unjustifiable exclusion from research access on the basis of age.

The unique issues related to conducting research with adolescents should be incorporated into the ongoing training/education of IRB's. In addition, IRBs should incorporate professional expertise related to adolescents via membership or consultation.

(OTA, 1986)

U.S. Congress, Office of Technology Assessment:
Children's Mental Health: Problems and Services

A need exists for more informed estimates of: the number of children who require mental health services; the availability and use of children's mental health services; the services available to prevent and treat children's mental health issues; the extent to which services are used; and the effectiveness of a variety of promising approaches. This information could greatly aid the development of a system that would match the mental health needs of children.

Consideration of environmental risk factors is important to an examination of children's mental health problems and services.

Methodologically rigorous research comparing the effectiveness of treatment in psychiatric hospitals and other residential settings with similar treatment is sorely lacking.

Much greater emphasis needs to be placed on evaluations of mental health services offered in a variety of settings, including non-mental-health settings. Assessment of integrated systems could help policy makers decide how to target resources.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(OTA, 1986)

U.S. Congress, Office of Technology Assessment:
Children's Mental Health: Problems and Services

The important questions, rather than being about the overall effectiveness of children's mental health services, may be: what specific types of services are effective; under what conditions are the services effective; for which children are the services effective; with which problems are the services effective; under what environmental and family conditions are the services effective; at what developmental level are the services effective; under what environmental and family conditions are the services effective; in what settings are the services effective; and with what follow-up or concomitant parental, family, school, and other systems interventions are the services effective?

Variables such as coordination of programs should be taken into account in the assessment of (children's mental health) care.

(OTA, 1991)

U.S. Congress, Office of Technology Assessment:
Adolescent Health, Volumes 1-3

Collect data on the availability and accessibility of health services for racial and ethnic minorities and rural and poor adolescents, including adolescent perceptions of availability and accessibility.

Collect data on the availability of school-based resources and facilities that could be used by adolescents in their discretionary time, and on the availability of recreation, youth services, and community service outlets for adolescents, especially those in poor communities.

Collect utilization data on the range of substance abuse treatment alternatives likely to be used by adolescents.

Conduct longitudinal studies of the precursors and short- and long-term consequences of substance abuse.

Determine how to further restrict adolescent access to firearms.

Develop alternatives to self-report measures of substance abuse.

Encourage States to collect and report additional demographic data on those with STDs (e.g., smaller age breaks, SES, race/ethnicity).

Encourage the Agency for Health Care Policy and Research or a similar agency to develop practice guidelines for psychological hospitalization of adolescents.

SUMMARY OF RESEARCH RECOMMENDATIONS

(OTA, 1991 CONT.)

U.S. Congress, Office of Technology Assessment:
Adolescent Health, Volumes 1-3

Encourage the Executive Branch to invigorate traditional Federal Activities in data collection.

Encourage the US Executive Branch, Congressional body or an independent organization to study the elements of model health insurance benefits for adolescents.

Expand support for local and more detailed surveys of tobacco, alcohol, and other drug use. Support inclusion of family income data in national and local surveys of drug use, and oversample low income, racial ethnic minority adolescents in national surveys of substance abuse.

Look at positive as well as negative aspects of racial and ethnic identification; allow for separation of effects of socioeconomic status from race and ethnicity on health.

Mandate confidential reporting of a broader spectrum of STDs.

Monitor the effects on adolescents of the implementation of the National and Community Service Act of 1990.

Monitor the functioning of youth in the child welfare system and study adolescent offenders' social adjustment and recidivism following release from Juvenile Justice System.

Provide sufficient support for the National Institute of Mental Health to implement its national plan for research on child and adolescent mental health disorders.

Provide support for multisite rigorous research and demonstration projects that test and compare new comprehensive and innovative health education models (such as those suggested by Carnegie Council on Adolescents and others).

Require the appropriate agency to provide Congress with periodic reports on the health of US adolescents and require that these reports are available to the public. These reports should include information on health status measures, Human Services utilization, community and work environments..

Require the executive branch to establish a permanent council(s) to provide ongoing advice to Federal agencies on research directions in Adolescent health.

Stipulate that certain rigorous methodological criteria be met for demonstration projects, especially in topic areas that receive high levels of resources (e.g., prevention of drug and alcohol abuse, pregnancy prevention).

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(OTA, 1991 CONT.)

U.S. Congress, Office of Technology Assessment:
Adolescent Health, Volumes 1-3

Study financing alternatives for adolescents with catastrophic health care needs.

Support a multisite demographic project of the efforts to improve academic achievement and school retention for minority, poor and academically marginalized students, using factors known or that appear effective in improving health outcomes.

Support a survey of schools and communities to determine the availability of facilities for a range of physical activities and the competence of adults supervising physical education.

Support an objective examination of the placement, mission and accomplishments of the Office of Juvenile Justice and Delinquency Prevention.

Support and encourage local efforts to collect data for use in comparison with national-level data.

Support changes in the social environment that have been associated with lower rates of problematic use of alcohol, tobacco, and illicit drugs and may have other beneficial effects on adolescent well-being (i.e.,reductions in parental drug use, higher levels of adult supervision).

Support data collection on the physical health, mental health, and other factors affecting homeless and runaway adolescents.

Support demonstration projects to determine and change attitudes of health and related service providers. Encourage more respectful treatment of families in their interactions with public and private organizations.

Support efforts to incorporate adolescent's views in the design and evaluation of pregnancy prevention efforts.

Support evaluations of the use of non-professionals to provide health and related services to rural, minority, and poor adolescents.

Support Federal data collection and research related to selected groups of adolescents.

Support Federal data collection and research related to the allocation of authority for adolescent health care decisions, and collect data on the Federal interdisciplinary training program in adolescent health care.

Support further research on models of comprehensive services for emotionally disturbed adolescents and their families.

SUMMARY OF RESEARCH RECOMMENDATIONS

(OTA, 1991 CONT.)

U.S. Congress, Office of Technology Assessment:
Adolescent Health, Volumes 1-3

Support inclusion of family income data in national and local surveys of drug use. Oversample low income, racial and ethnic minority adolescents.

Support independent research on the appropriateness of current diagnostic criteria for adolescent mental health programs.

Support and evaluate interventions such as peer counseling, decentralized decision-making, and innovative approaches to parental involvement in schools.

Support multisite research comparing the effectiveness of different mental health treatment settings and different approaches to coordinating treatment.

Support (or encourage the Executive Branch of Government to support) a symposium on adolescent research issues.

Support oversampling of minority, poor, and rural adolescents in population-based and health service utilization surveys.

Support research aimed at evaluating, and if necessary, improving the content of training for adolescent health care providers across a broad range of disciplines.

Support research aimed at improving adolescent-provider interactions, including research on diverging perceptions of adolescent health care needs.

Support research aimed at improving referrals among systems of care.

Support research and rigorous demonstration projects on innovative ways to prevent accidental injuries.

Support research in adolescent preferences for recreation, community service, and youth services in poor, minority, and rural communities.

Support research on a range of alternative delivery mechanisms for adolescent health and related services.

Support research on adolescents' capacity to make various types of health-compromising decisions, taking into account factors such as age, prior experience, situational factors, and intelligence.

Support research on contraceptive technology, with an emphasis on technology that is appropriate and acceptable for adolescents.

Support research on effective community-based (rather than institution-based) rehabilitation approaches to juvenile offenders.

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APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(OTA, 1991 CONT.)

U.S. Congress, Office of Technology Assessment:
Adolescent Health, Volumes 1-3

Support research on normal adolescent development in poor and minority adolescents.

Support research on parenting styles and their effects on adolescent development, especially on poor and ethnic and racial minority adolescents.

Support research on the special needs of adolescents coming to emergency facilities as a result of accidents.

Support research on the availability of dental care for those poor and low-income adolescents who are not eligible for Medicaid.

Support research on the capability of adolescents to determine their own need for mental health treatment.

Support research on the development and evaluation of effective treatments for adolescents with substance abuse problems.

Support research on the effect of adolescents' nutritional and fitness choices on current and future health.

Support research on the effect of adolescents' nutritional and fitness preferences in order to help target education and other preventive interventions.

Support research on the factors that lead adolescents to engage in unprotected sex.

Support research on the features of recreation and youth and community services activities that both attract adolescents and are health-enhancing.

Support research on the immediate and long-term physical (e.g., nutritional) and psychological (e.g., self-esteem) health effects of poor adolescent dental and oral health.

Support research on the impact of racial and ethnic minority status poverty (including rural poverty) on adolescent health and development, including health beliefs and practices.

Support research on the relationship between adolescent maltreatment and health problems such as depression, alcohol and drug abuse, suicide attempts etc.

Support research on the relationship between health-care needs and varying levels of physical activity.

Support research on therapeutic regimens for HIV and STD's that are likely to increase adolescent compliance.

Support research on means of preventing the commission of violence by adolescents as well as the victimization of adolescents.

SUMMARY OF RESEARCH RECOMMENDATIONS

(OTA, 1991 CONT.)

U.S. Congress, Office of Technology Assessment:
Adolescent Health, Volumes 1-3

Support research on the reasons that adolescents, including white middle class and gay and lesbian adolescents, run away from their families.

Support research to determine whether the delivery of health and related services is "comprehensive" and "integrated".

Support research to explain the difficulty of providing a complete range of services to adolescent parents through case management and referral.

Support research to determine why pregnant adolescents do not choose abortion more frequently.

Support research that distinguishes between substance use, problem use, and substance abuse in adolescents, and research that distinguishes clearly between different substances.

Support research to assess the need for adolescent-specific guidelines for the treatment of STDs and AIDS.

Support research to determine the extent to which parental prerogatives to hospitalize adolescents for mental health or substance abuse problems cause harm to the adolescents.

Support research to develop effective substance abuse prevention and early intervention efforts for additional high-risk adolescents (i.e.,adolescents who work, who have disposable income, homeless and runaway adolescents).

Support research to investigate the causes of injuries and injury-related deaths, including accidental injury and death, particularly motor vehicle accidents, drowning deaths, firearm-related deaths, and sports-related deaths.

Support rigorously evaluated demographic projects on the impact of multicultural and bilingual curriculum on adolescent health outcomes such as self-esteem and academic achievement.

Support routine collection of data on sexual activity, pregnancies, and pregnancy outcomes among racial and ethnic minority adolescents.

Support routine collection of data of adolescent sexual activity and birth-related outcomes.

Support routine collection of dental health information on adolescents who are poor, not in school, disabled, in institutions, or of racial and ethnic minority groups.

Support routine collection of information on the effects of adolescents' nutrition and fitness choices, with oversampling of disabled, minority, and poor adolescents in population-based studies.

APPENDIX B

SUMMARY OF RESEARCH RECOMMENDATIONS

(OTA, 1991 CONT.)

U.S. Congress, Office of Technology Assessment:
Adolescent Health, Volumes 1-3

Support routine collection of prevalence data on a broad range of physical health problems, including serious chronic problems of low prevalence and chronic problems of importance to adolescents.

Support routine collection of SES data on adolescents who are sexually active, become pregnant, have abortions, and become parents.

Support the collection of data on the availability of recreation, youth services, and community service outlets for adolescents, especially those in poor communities.

Support the collection of data on the availability, utilization, and efficacy of a broad range of services likely to be used by adolescents, including substance abuse treatment alternatives and mental health services.

Support the collection of data that will allow for differences that occur during adolescence to be detected. This will require the use of larger sample sizes.

Support the collection of information on the prevention of a broad range of physical health problems, including serious chronic problems of low prevention and chronic problems of importance to adolescents.

Support the collection of national data on accidental injuries and their causes from a spectrum of health delivery systems (i.e.,clinics, emergency facilities, schools).

Support the collection of standardized data on adolescent offenders' social adjustment (recidivism) following release from The Juvenile Justice System.

Support the development of admissions criteria for mental health treatment programs, beginning with treatments in the most restrictive environments.

Support the expansion of data collection efforts to oversample racial and ethnic minority adolescents and to include information on SES.

Support the NIMH in implementing the National Plan for Research on Child and Adolescent Mental Disorders.

Support the regular collection of self-report data on a range of adolescent offenses and a range of ages.

Support the regular collection of population-based information on STDs and HIV among adolescents.

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SUMMARY OF RESEARCH RECOMMENDATIONS

(WTG, 1988)

William T. Grant Foundation:
Forgotten Half: Pathways to Success for America's Youth and Young Families

Collect statewide and community-based data on adolescent health problems/services, and develop accurate profiles of local youth needs. Initiate or update 'State of Children' reports that can be used locally as planning guides for states and large jurisdictions.

Stipulate that applicants for grants must provide evidence of ability to 'saturate' a given target area through: specific outreach and motivational mechanisms; case management systems; cooperative arrangements with service providers; and the capacity to provide an independent evaluation. Limit grant applicants to public and private non-profit consortia.

Support a comprehensive, in depth study of the state of the nation's youth organizations in order to add to our understanding of successful youth work and to learn what can be done to aid these organizations in their essential mission.

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